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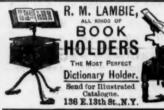
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THE world is without doubt out of joint. Thousands of instances show this fact. How it can be made right is the one burning question of the hour. Let us examine a few points. The condition of working women in all our larger cities is frequently deplorable. The dastardly acts of hardhearted employers have frequently been told, and brought the hot flush of indignation to many a cheek. What is the remedy? Education, not in algebra, or even grammar, history, and geography, but for the purpose of giving the girls now in training the ability to earn an honest living. Girls and boys must know how to do several things well. Thousands of women can only do plain sewing, the result is the market is overstocked with those who want such work, and wages are down almost to the starvation point, but if these women could turn their hands to other things they could get along comfortably. Cooking is as honorable as sewing, but while there are thousands who can sew there are only hundreds who can cook well.

to oe,

There is a moral side to this question. It is stated that of 870 girls arrested in one month and brought to the police station in Chicago, only 130 knew how to sew or do housework, and none had learned a trade. It has been well said that, "inability to do anything well is the occasion of empty hands, empty pockets, and vicious lives." Our schools must prepare pupils for the life they will meet, and give them the power of turning their abilities to profitable account in several directions. Tens of thousands of To get any mental training from Latin it must be

of such teachers as trustees are willing to employ is overstocked. Now if these young ladies could do half a dozen things as well as teaching, and earn as much or more, they would never ask for a school twice, after having been rejected once. We ought soon to come to the time when no necessary work, if done well, should be considered menial. The word "servant" must be banished from the vocabulary of Christendom. In one sanse we are all servants, the president in his chair, the laborer in the street, and the teacher in his room, but in a higher sense we are all masters, the cook preparing healthfulfood and the congressman making laws. It is right to do whatever educates the world. It may be teaching numbers or writing, or it may be cleaning the street and washing dishes. All honest, necessary labor is educative, and children should be edu-

THERE is more education obtained from the reading of one number of a daily paper than from the formal study of half a dozen text-books on mor-A few months ago the actions of a noble lord from England were most minutely described in the columns of the daily and weekly press; and more recently the troubles of another noble lord, connected by marriage with the royal family, have been paraded before the civilized world. It matters not how nasty and mean a description is, if it once starts on its way, it is repeated in ten thousand papers around the globe. When we read certain press reports and flaming advertisements we are much inclined to wish that printing had never been invented, and reading a lost art. If we depended upon a public reader for our news, we should not have as much temptation to hear of the debauchery and meanness of titled sinners. Some strong arguments could be urged in favor of the creation of the office of a public censor of newspapers. We have stringent laws for suppressing improper pictures, why should we not have equally as strong enactments against improper and immoral writings? It is all an affair of education.

• PRESUMPTION of brains" is the somewhat odd title of a paper by Mr. Marble of Worcester. He seems to think that there are grave reasons for alarm from the growing prevalence of the idea that the brain can only be developed through the senses. He declares that, "children have brains, and they are all the better for exercising them." "Assume that the child has brains, and get them into healthy activity." "The work of the school is the making of the most possible of the mind." These are sound statements-foundation stones of true education-except the intimation that there is any possible way of getting at and training the mind except through the senses. A child without his senses has no sense. A log of wood could as easily be trained. We get at the brain only through the senses, and there is no education except by sense exercise. We can't conceive in our earthly state of a thinking something without eyes, ears, hands, nostrils, and a tongue. All exercise of these-all development of their acuteness, develops the brain. A child that can do nothing, knows nothing. The more he can do the more he knows. There is no education in pure thinking, apart from doing. There is no such thing as pure thought divorced from some concrete thing or object, and all talk about an education of the mind that does not recognize the activity of one or more of the senses, is nonsense. Some people talk about a well educated mind being able to turn itself successfully into any line of work, as though the mind could be enlarged, quickened, and furnished by some mysterious infusion of energy distinct from the body. The thing is impossible!

young ladies can teach, and the result is the market read and written; to get anything worth anything from mathematics it must be applied by drawing or measuring; to get anything mental from geography the world must be seen and felt, and even heard, smelled, and tasted. The more rational activity, the more mental growth. Not until a child begins to use his senses intelligently does he show evidence of reason, and whenever and wherever he ceases to use them intelligently he shows just as conclusively the want of reason. Whenever and wherever teach ers advocate mental training by and through the activity of the senses they show proof positive of common educational sense, but whenever and wherever they talk about mind culture, pure and abstract, divorced from sense activity, they give proof as positive of a want of knowledge of the first principles of educational philosophy.

> THE instruction in the great English schools was nearly all Latin until 1530, when Greek was introduced, and until 1785 the only further change was the addition of a little more Greek. It was not until 1829 that modern and ancient history, geometry, and arithmetic were introduced into the highest classes. In 1851 modern languages were introduced into the Harrow school curriculum. In 1822 it is said that in this school it was "absolute heresy for a master to attempt to teach anything but Latin and Greek.' Dr. Arnold at Rugby was among the first to advocate the study of something besides the classics. On this mental food hundreds of Englishmen have become intellectual giants. Their minds had time to expand. They were not expected to know a little of everything, but a great deal of something. This is as unlike our system of universal cramming as it possibly can be, and indicates that when the time of returning sense overtakes the educational world that the quantity obliged to be learned will be reduced to a minimum. Mental culture does not depend upon the amount memorized, but upon the mental discipline gained and its relation to the work of life.

THE world has laughed for centuries at old Diogenes who sought with a lantern at noontide in ancient Athens for an honest man, but sought in vain. Jeremiah long ago commanded, "Run ye to and fro through the streets of Jerusalem, and see now and know, and seek in the broad places thereof, if ye can find a man!" Diogenes once cried in the market-place, "Hear me, O men!" and when the people came together around him he said, "I called for men, not pigmies." Nothing has been more needed since the foundation of the world than men. They have been wanted everywhere and the race of humanity has much suffered because they could not be found. What constitutes manhood? Not physique. Other animals are far stronger in every respect than the genus homo. Not intellect only. Satan has exceedingly well developed thinking powers. He glories in his intellectual abilities. Something else makes men. The very first element is obedience to the inner voice. Listen! It whispers Something says, "Stop!" or "Go forward!" The man obeys, and thereby proves his royal title to manhood. Robert Colyer says of one man, "I heard a man say that for twenty-eight years the soul within him had to stand like an unsleeping sentinel, guarding his appetite for strong drink." The next requisite to manhood is sympathy. Christ stood over against Jerusalem and wept over it. Was it of weakness or greatness? The man who cannot shed honest tears hasn't a spark of manhood in him. He's an apple of Sodom, -looks well, but juiceless and useless

The very last element of a man is intellect. A serpent endowed with the power of thought would be a serpent still. Greatness, according to the world, does not imply manhood, but after all it is manhood the world needs.

A FEW SUGGESTIONS.

Boards of education have one great, unsolved problem before them, which involves many lesser ones. It is-How to make the interests of superintendents, princi: pals, and teachers as nearly as possible identical with those of the pupils.

A law basing a principal's salary upon the number of children in attendance at his school should be supplemented by another, limiting the number of pupils to a class or to a given air space and providing that no room not first approved by the Sanitary Committee shall be used as a school-room

Examinations should be conducted in such manner as to test, not the amount of cram that has been effected during the term, but the amount of real mental and moral benefit derived by the children from the teachers in charge.

It must be remembered that bad educational work cannot be undone even by the most skilled instructors, and the younger the pupil upon whom it is perpetrated the more ineradicable are its results. The very general distaste of teachers for primary work, then, should be met with superior inducements for the best of them to seek it and apply to it all the professional ardor that is in them. That principals may favor this policy, they should be guaged by the success of their primary departments (upon which the public mainly depends for its benefit from the schools) more than by the brilliancy of their

Sub-principals, appointed from one of the higher gram mar classes to a position of authority over primary teachers, find it difficult to reach down to the intellectual level of the younger children. In order that she should have some practice in teaching them before undertaking to direct their teachers she should be eligible to the principalship, only after at least one term of service in a primary class, preferably the lowest. In order that she may willingly serve this term of apprenticeship her salary as a primary teacher should not be lowered from that resigned by her in the grammar department.

In order that principals and sub-principals may be induced to keep abreast of the times, a part of the annual or semi-annual examinations in their schools should be upon the latest discoveries and experiments in educa tional science, with their experience in testing new methods or their intelligent objections to the same.

LET it be borne in mind that we learn of the existence of moral laws just as we learn of the existence of physical laws. It is generally supposed that young people learn how to do right by the reiteration of a direction. "You must do this," and "you must do that" are considered the main ways of teaching morality. But the rule, "Honesty is the best policy," is an inference; many examples have been observed and this is the result. Jesus taught by parables—that is, he gave examples and drew inferences, or left them to be drawn by his hearers. Mere stories are not enough; a story must be selected that will cause the pupil to see that consequences follow invariably certain acts.

I was in a bank in Auburn, N. Y., several years ago, and while conversing with the cashier, I saw a tall, fine looking gentleman enter; he carried in his hand a goldheaded cane and he was unusually well-dressed. bank officials treated him with consideration, and his requests were listened to with respectful attention. My companion said, "That man has a history; I know him well, he was a pupil of mine. I had just opened my school one morning when I saw by the faces of the pupils that something unusual was at the door. Peering around, I saw a tall, wild-looking boy, probably about fourteen years of age; he had on a dirty shirt, and a pair of pantaloons held up by one suspender made of a piece of rope; an odd-looking cap was on his head. He eemed so surprised at the appearance of the children that I knew he was in a school for the first time. He held in his hand a few leaves of the testament. He was the oldest of a large family that lived in the woods down by 'the Creek;' the father was a drunkard and the mother shiftless

This lad could neither read nor write, and was derided by the better clad, and yet he steadily persevered in coming to school. Some of the neighbors employed him and he got a pair of shoes, which he sadly needed. Books were loaned him, and he gave himself up to study, speaking to no one and not going out to play; he came to learn, that was evident.

He made rapid progress, and in a year or two was in

every day. Here he was noted for his perseverance in study. He was not a genius, simply an industrious boy. He took great delight in learning the French language, and made thorough, rapid progress. I heard of him a few years after as giving lessons in French. Then he went to Europe, and on his return began to lecture and teach in the French language with great success. few Americans could speak so fluently, and as he had studied the language in Paris, he was looked upon as an authority, and could charge good prices for his lectures and lessons. He began to lay up money; bought a farm for his parents, and had an account in the bank. He not only knew French, but had a good education and was a cultivated and polished gentleman; above all, he was able to help thousands out of darknesss and ignorance. It was his delight to spread light and knowledge

Some of our contemporaries from time to time make a great effort to be funny. What do our readers think of the following criticism of a lesson plan for training observation that appeared in these columns a few weeks

How many legs have two crawfishes? How many legs have four fleas? How many legs have seven tomato-werms? How many toes have three boys? How many toes have six bens? How many toes have three dogs? many fingers have four girls?
many ribs have two men?

City children will likely have excellent opportunities to exam ne crawfish and tomato-worms? Mosquitoes and fleas will of course be easily caught and readily examined, but who cares to go to the trouble of a fica hunt or a mosquito hunt, when any work on natural science will give him the information of it is desirable? Is there any child so great an ignoramus that his obs eds to be cultivated as to the number of toes or finge

From an educational standpoint, this is a waste of words. To the true, live, flexible teacher, lessons plans of another teacher are simply suggestions to be followed out and adopted to each teacher's wants and circumstances. The teaching of that lesson plan was most valuable; and city teachers and country teachers (not funny editors, whose avowed object is to preserve the old in education), who had one particle of adaptability about them, would catch the suggestion of the lesson plan, viz. : to train the child to observe closely and accurately those things around him, and further to call his attention to those objects in nature in which he is likely to take a lively interest. Our contemporary shows his colors when he sa; s, "Who cares to go to the trouble of a flea hunt or a mosquito hunt when any work on natural science will give the information?"

There it is again,-cram rather than investigation. It is only a little thing, but it involves the violation of a big principle, viz. : never tell a child a thing he can as well find out for himself. But our conservative but facetious editor does not believe in this. He advocates at every opportunity, reference to books of science. He would place in every toddler's hand a book of science. Why is this? Is he really so afraid of the inconvenience of a flea hunt or a mosquito hunt? Why? Because it is policy for a professional bookmaker to discourage, at every opportunity, an investigating spirit, and advocate use of his books.

SUPT. MCALISTER of Philadelphia, has already done a work of immense magnitude. He ranks high among superintendents. At the outset he saw the difficulty lay, as it always does. in the teachers. Most mer think it is in what the child does or does not learn Hence they reform by changing the course of study. This is the quantity idea; it is as if a preacher should find his people going backward in morals, and should give them a two hours' sermon instead of one hour in length. The only way to improve men and children as well is to put better teachers among them. This is the quality idea. It is not what a boy learns, but who he learns it with that makes him into a man. Emerson, in reply to his daughter's letter telling what studies she was intending to take up is both characteristic and phil-"It matters little what the studies are, but verything who the teacher is."

Supt. McAlister aims at the teachers. What will enlighten them on education? That he strives for. Hence he encourages the reading of educational journals and Such work as his cannot but bear rich fruit if the Philadelphia Board of Education let him alone and help him all they can. To do battle for 100,000 children is a great thing, and one needs the highest wisdom. To the academy, distant three miles; to this he walked divide them up into classes and give each a spelling-

book is the way of a barbarian. To lift these teachers into a nobler atmosphere is the true way. But it is a hard way, for none but a really noble-minded teacher wants to be improved. It is the one deadly sin of the teacher to feel he needs no more knowledge. He cries to the pupil, "Advance;" to himself he says, "Stand still.

QUEER things come through the mail. Some three years ago a city superintendent asked that the JOURNAL be sent him. It was sent accompanied by bill; as no payment was made another bill was sent, and so on until quite a sum had been spent on postage and a good deal of our precious time taken up. A month ago a let-ter was sent telling he *must pay*. This brought our man to his feet and he responds with the cash and an order, "to stop sending the paper, that he does not like to be dunned." &c.

Now, suppose this city superintendent was treated in the way he treated us when he asked for his salary? Suppose he begged for his pay for three years, and finally when he got importunate for money to su; port his wife and children, he should be told, "Here is your money, but we want you no longer."

MORAL.-Superintendents of schools should do as they would be done by.

An important and interesting book on the practical side of industrial education, by Mr. S. G. Love of Jamestown, N. Y., is announced for next February by E. L. Kellogg & Co., the educational publishers of New York. It will be fully illustrated, and contain practical directions for graded industrial work, from the lowest primary to the high school. Also description and use of tools, and minutiæ of every sort. Mr. Love has long been known as probably the most careful student of industrial education in this state and his book will undoubtedly be of the highest interest and value.

THE teaching fraternity has been under many obligations to Mr. John N. Abbott, general passenger agent of the New York, Lake Erie, & Western R. R. always generously responded to the application for the reduction of fare for the meetings of associations, both state and national; he has done this when it was not a custom, in fact he has led the way to making it a cus-We are therefore pleased to know that his abilities have been recognized, and that he has been called to a very important post in Chicago-Commissioner of the Southwest Passenger Association. There are three such-western, northwestern, and southwestern-and these will probably be centralized under Mr. Abbott. When a lad of 17 he entered the Erie offices, and has risen step by step. His career has shown him to possess a level head and great administrative ability. Few men in railroad circles are better known; always accessible, always ready to advance other interests if that would help the Erie. The effect of his genial disposition and clear brains has been the steady development of the Erie R. R. traffic. His salary in his new position in Chicago is \$10,000, and he is worth it. With all of his business he has been able to fill the offices of school inspector in this city with credit to himself. We commend him to the Chicago people as one who will take a deep interest in their schools, and to the western teachers as one who will cordially help along their conventions.

LANGUAGE LESSONS.

READING.

Charles H. Anthony, who was a most successful teacher of elocution in Albany for many years, made voice-training the principal thing in all reading lessons. A principal of one of the schools had a course of ten lessons in reading-nine of them were spent on voicetraining and one on reading. Rather disheartened he determined to take ten more lessons in order to get some instructions in reading. To his surprise, nine of these were spent in voice-training; but he was satisfied.

The methods of most elocutionists is to use arrange ments of the vocal elements; they construct charts. somewhat on the plan the musician arranges exercises for the learners on the piano. In the ordinary school class this fails to interest.

My practice has been to devolop the voice by means of concrete rather than by abstract examples. I select sentences that illustrate contempt, surprise, sarcasm doubt, hesitancy, willingness, fear, joy, &c. I get all interested in saying these in the best manner possible. For example, I give the sentence, "You will, eh?" criticize.

'That's pretty good."

"That's not so good."

"Very good, indeed," &c. When all have tried .-

Well, who did the best?"

It is considered that John does it the best, and he is called on to give it two or three times.

I give the sentence, "No, sir; no, sir; I never will." Each holds his book in his left hand, and as he says the sentence he strikes the book with his right in an energetic manner, at the word "never." The same course is taken with this as with the last sentence in encouraging and criticising. It will surprise a teacher to see the interest and to hear the loud, strong, and natural tones.

I give the sentence, "He don't amount to much," and let them point to the stove, desk, or something to give it point. Once I hung a coat on a pointer and put a cap on top to add force to the expression. It helped wonderfully.

I give the sentence, "Oh, yes, I believe you,"-to express sarcasm,-and pursue the same course. The head is nodded at the proper time. The Delsarte method consists primarily in bringing all the body into the expres-These examples enable the teacher to call on the pupil to use hand and head and facial pression.

l give this sentence, "I will not barter away my manhood," the pupil to stamp with his foot vigorously at the word "not," and to gesture with his right hand beside. All of these sentences can be pronounced in concert first and then individually. It will be found that the pupils that can hardly speak above a whisper, in these sentences speak sufficiently loud.

Two boys are called forward and one addresses the other:

" And so, sir, you think I am a crank?"

The other replies:

" Decidedly."

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Two others try it; then two more, and so on.

A great variety of such sentences are gathered and practiced on. These do not take the place of the usual AN ABSTRACT OF LECTURES DELIVERED BEFORE THE BROOK reading lesson, but are voice-developing exercises. They serve, too, to interest in the reading exercises, "a consummation devoutly to be wished." H. B. M.

HOW TO TEACH TIME TO THE YOUNGEST CHILDREN.

BY MISS MAY MACKINTOSH.

Material. - Any clock-face with moveable hands. Milcon Bradley makes one (price, fifty cents), which is

At first I only try to have the children recognize the position of the hands at each hour. We are favored by having a large clock near our school, which strikes the hours; so, when each hour, from 9 A. M. to 3 P. M. sounds, all the little hands go up for permission to "fix the clock." I contrive to let each one have a turn, the others deciding on each occasion whether the hands are rightly placed or not. I have the minute-hand turned slowly once around every hour, and explain that it takes the whole hour to do so by itself, on a real clock.

This is the first step, and I do not expect my youngest (kindergarten) children to go farther.

The second step is the division of the clock-face into halves and quarters, thus:





I have one (older) child detailed to remind us when each half-hour comes round; and we proceed as before. When the half-hour is taught, I arrange my lessons from a quarter past one hour to a quarter of the next, so as to teach the quarters without undue interruption of

The thirp step I take during the number lesson. This includes telling the five-minutes in every half-hour and quarter-hour; and the children are also expected to know how to tell time, within a minute at any place on the clock.

The main point that I would make is that the children have to do something; and action in concert with an idea, always helps the remembrance of it.

Of course there is much more to be taught in the subject of time ;-the divisions of days, weeks, months, and

One tries it, then another, and another. I encourage and treated in a different way, though the underlying connection should be shown.

HOW TO TEACH MORALS.

It is the exceptional teacher who knows how to seize every opportunity for the moral training of her class. It seems to be the opinion of some that morals should be set down in the grade-book as a separate and individual study and mapped out just as geography and history are. Would not this cut-and-dried way of treating the cultivation of our nobler nature thwart its own end? The very essence of moral culture is its spontaneity. The tone of the voice, the expression of the face, are more powerful agents with the young than moral lectures. Every school-day yields many an occasion for the earnest teacher to show an aversion for wrong-doing and a love for the right; and the teacher who carries her class with her will not fail to impart her sentiments to her

There is not a reading lesson-there is hardly a lesson in any branch, which may not be made, directly or indirectly, moral in its influence. "Poor little thing!" uttered in tones of pity by the teacher, when the story is about a wounded bird, will generate sympathy in the responsive heart of childhood. A pleasant look when a good action is narrated will generate admiration for goodness. A shocked face when some tale of wrongdoing is related will generate indignation against the wrong. Children must not be preached at. What they want is to be turned toward the light, to be warmed with generous sentiments, to be imbued with moral tastes. If we can lead them to love the right and hate the wrong, they can be trusted to reform their own wayward natures. Only start them right and give them No. 43. time and encouragement.

THE SCIENCE OF PSYCHOLOGY.

LYN TEACHERS' ASSOCIATION

BY NICHOLAS MURRAY BUTLER, Ph.D., OF COLUMBIA COLLEGE, N. Y.

LECTURE V.

Heredity in its general sense is the great biological law that like produces like. This, however, is subject to so many exceptions and limitations that it is only strictly true that like tends to produce like.

In this discussion we may consider man from two points of view: (1) With respect to the functions of hls animal existence, his organism; (2) With respect to his dynamism. Does heredity operate in both these fields, organic and dynamic? The first question is physiological, the second psychological. Inasmuch as both are associated in man, each influences the other. Any influence acting on one acts also on the other; e. g., an influence in the organic affects the dynamic, and vice

Physiological heredity has been reduced to a science but the psychological has not. But it is not being thoroughly studied. The four books recommended on the subject are these:

1. Ribot's Heredity. (This contains a great mass of facts, interesting but not all of them authentic.)

2. Francis Galton's Inquiry into the Human Faculty.

3. Hereditary Genius.

4. English Men of Science.

If heredity is a fact then we may expect, (1.) that the psychological development of individuals follows and is partially conditioned by that of the race; (2.) that in a progressive race the native capabilities of each generation show a slight advance on that of the preceding.

Now with all that we know of the facts of heredity, et the scientific cooclusions are still very indefinite. If all is true that has been claimed for heredity by some it reduces man to an automaton, and we should have no psychology, no ethics. Therefore we should investhe subject with great care. We cannot say that heredity is absolute. On the other hand with so many undoubted facts in its favor we cannot sav it does not exist. The discussion as to the relative influence in development of nature and nurture gives rise to the em phasizing of the one element at the expense of the other. Locke emphasized nurture, which we term the social environment. He went so far as to state that in ninety out of a hundred cases the good or evil that a man does years.—and the reasons for these divisions;—but this is traceable to the effect of his social environment. Nowwould form another series of lessons, leading on into a-days we are too apt to emphasize nature. Heredity geography and astronomy, which would have to be only broadly determines the processes of mental devel-

opment, and does not fix the precise character. It sets limits which can not be passed without tremendous exercise of spontaneity.

Physiological heredity has been very well established. How often we hear the expression, "He looks like his father." So in form, features, size, and a hundred peculiarities. This is not a modern discovery. In ancient Roman days whole families were named for certain peculiarities of face or feature. But physiological heredity acts still more widely. There are also internal characteristics, e. g., the bony structure, the muscles, the nervous system, the size, shape, and complexity of the brain, which are inherited. From the inheritability of the structure of the nervous system we infer the influence of heredity upon its functions, and thus upon mental development. We find a heredity of instincts. The ordinary use of the word instinct is inexact. may mean by it automatic or unconscious acts of the animal or man or plant; or we may use it as synonymous with feeling, as when we say a man has murderous instincts, charitable instincts, etc : or we may extend the term to cover all the mental operations of animals. and speak of animal instinct as opposed to human intelligence. But this is too broad a use of the word. Some define an instinct as, "An instinct is an untaught ability to do a thing." Ribot says, "An instinct is an unconscious form of intelligence determined by the organization, and it is possible that instincts are only habits fixed by heredity." Von Hartman's definition is this: "An instinct is an act conformed to an end, but without a consciousness of the end." This seems the most satisfactory definition. As characteristics of instincts we notice: (1) An instinct is innate and perfect from the first. (2) It advances toward its end with mechanical certainty. Intelligence hesitates and considers motives. (3) Instincts are practically stationary -the same the hundredth time as the first. Here the lecturer read an extract from Herbert Spencer's Psychology on the formation of instincts. The heredity of instincts is beyond question, e. g., tameness in animals originally wild is inherited, keenness of sight is inherited, and other traits. Then, too, a tendency to have a good memory is inherited. Galton instances among others the family of Richard Porson.

In the imaginative faculties and of the will, instances are numerous of heredity. There are many examples in history of hereditary intellectual power: Byron, Coleridge, Goethe, Wordsworth; Titian among painters, Sebastian Bach among musicians; Francis Bacon, Jeremy Bentham, the Adams family, Macaulay, Mme. De Stael. Charles V.. the Medici family, Walpole, Ptolemy, Scipio, Charlemagne among warrors,-all inherited a tendency to unusual intellectual power from one or both of their parents.

There are three forms of heredity: (1) direct, from generation to generation; (3) atavism, that which skips (3) complex, taking place in side line, generation : from aunts and uncles to nephews and nieces, etc.

The law of heredity plays a great part in the history of nations; e. g., Jews, the Gypsies. But the law that like produces like is true only in theory. The counteracting tendences are: (1) spontaneity of the individual; (2) external environment, modifying the course of evelopment. These account for numerous exceptions. But this heredity is the conservative factor in the great drama of progress. Now, progress is a modern idea, only two centuries old. But the idea of progress, as current even to-day, is vague and incomplete.

We are too apt to regard it as meaning merely the advance and improvement of humanity. Modern science substitutes the definite term evolution or development in place of the indefinite term progress. This is the great achievement of the nineteenth century. Hegal, Darwin, and Herbert Spencer are its philosophic expounders. For them evolution means a passing from the homogeneous to the heterogeneous, from the indefinite to the definite, from the uniform to the multiform, in physiology, in psychology, in sociology, as well as in natural science,

The law of evolution explains what the older methods ould not explain.

Heredity and evolution are the two stable factors in the phenomena of life. The one without the other preclude the possibility of progress. Heredity without evolution would give us simple repetition, the son would be just like the father, and so on from age to age; while evolution without heredity would result in mere ephemeral changes, and no generation would benefit by the experiences of its predecessors.

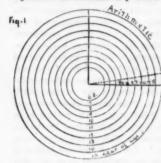
Evolution is the radical factor, heredity the conservative, and both are necessary to a clear understanding of

FRACTIONS.

The following article have been contributed by some of our best teachers. The aim of the symposium is not to present each one's method in full, as there would necessari.y be a great deal of repetition, but we have aimed to select from each article those methods or suggestions that distinguished that article from all the others, special attention being given to division of

L. R. KLEMM, Ph.D., HAMILTON, OHIO.

I start with the presumption, that the human mind grows in concentric circles, which, I admit, is nothing but a presumption; for Dame Nature is much too erration to permit a mathematically correct expansion in every



direction. claim an average of 90 deg. for numbers. alias Arithmetic; this considerable portion of the child's horizon is claimed for argument's sake only, (it varies with different children). And within this one fourth of the mental horizon I claim at least 10 deg. for cal-

culations involving fractional numbers. See cut.

From this rather artificial exemplification we see, that almost if not every part of arithmetic can and ought to be taught in the lowest grade of school.

We find that most young children know one-half and one-quarter. And this knowledge has been gained empirically; for instance, when mothers cut the pie at din-Where there are several children in a family, the younger ones learn the fundamental facts of fractions from the older children. This knowledge is not scientific, the child could not define the term fraction as yet, but it is clear enough for our purposes, which aim at a harmonious growth in every direction.

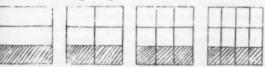
In the second year we introduce a few more fractions, such as 1, 1, 1. In the third year we use actual weights and measures, allow the pupil to handle them and to These measures give us opportunities of introducing such fractions as \$, \$, \$, \$, etc., and we are not slow in making use of them. And s widening the scope in the succeeding circles. And so we go on

The regular instruction in the fundamental rules of fractions properly begins in the 5th year of school, while in most schools it does not begin till the 6th year (C. Gram.)

In the grades in which fractions are taught, illustrations of various kinds should be applied. I know of no better means than colored paper cut in squares of about 4 inches. They cost but a trifle if the paper is bought by the quantity and cut into shape by any bookbinder or printer. For our purposes they would be greatly improved if certain lines dividing them into 3ds, 4ths, 5th, 6ths, 9ths, etc., were made by perforating the paper. Thus the process of folding could be done much more rapidly and accurately.

(a). REDUCTION.

Reducing to higher and lower terms is done thus:



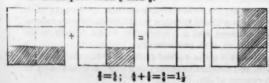
equal \$, equal \$, equal +\$, equal +\$.

This illustration is so convincing that it speaks for itself. Any child will see the "true inwardness" and the mode of procedure in reduction of fractions, except one who can not see through a barn-door, even when it is wide open.

(b). ADDITION AND SUBTRACTION.

Adding and subtracting and the necessary finding of a common denominator is done in the good old-fashioned way, supplemented by such illustrations as the follow ing :

1. Example: Add # and #.



2. Example: Subtract # from #.



It is obvious, that I can show here only the bare outlines of my mode of procedure; but I covet an opportunity to show it as extensively as I do it in the school-

(c). MULTIPLICATION.

Here we have the following cases:

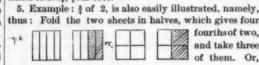
3. Example: $3 \times \frac{3}{4} = \text{what}$?



This answer can be made very obvious by taking two of the three fourths of the third sheet and completing the first two squares; one fourth will be left over.

4. Example: 3×21. This explains itself, being a repe

tition of 3×3 , plus 3×2 .

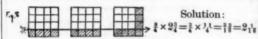


fold each whole into four equal parts which gives \$, then take # of the first sheet; and # of the second. Both give the same result.

6. Example: 4 of 4 is still easier, as it requires but one leaf. First fold it as it is seen in Fig. 7a, then as it is seen in Fig. 7b.



7. Example: 4 of 24, is plainly seen in the following figure. Take 3 whole sheets, cut off 1 of the 3d. The arrow across the 24 indicates 4 of 24.



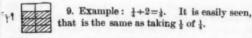
8. Example: 34×23, is a mere repetition of exercises similar to the preceding one, except, that it takes more whole sheets to illustrate it.

Solution: $3\frac{3}{4} \times 2\frac{9}{5} = \frac{1}{4} \times 8 = \frac{3}{18} = 10$.

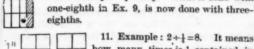
(d). DIVISION.

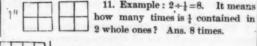
All examples in division of fractions can be illustrated by means of our paper squares. Take these cases:

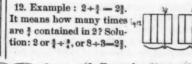
(1) $\frac{1}{4} \div 2$; (2) $\frac{3}{4} \div 2$; (3) $2 \div \frac{1}{4}$; (4) $2 \div \frac{3}{4}$; (5) $2\frac{1}{4} \div \frac{1}{4}$; (6) 21+3; (7) 2+3.

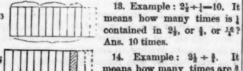


10. Example: \$+2=\$. What is done with









means how many times are \$ of one contained in 21, \$ or 10? Ans. Stimes.

15. Example : 1+1. This means how many times is # of a whole contained in # of a whole? (It does not mean ! of !). Solve it thus. Divide each strip, that is each fourth, into five equal parts, and each fifth of the square into four equal parts; this gives us 18 and 18. Now it is

readily seen, that ! is contained in ! as many times as 12 is contained in 15, namely, 11 times.

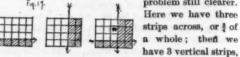
Solution: +++-++-11-11.



The example # of # would be a different thing, as is seen from this illustration.

Solution : 1×1-10.

The following illustration serves to make the last problem still clearer. Fig. 17.



or \$. The arrows in the third square crossing each other indicate 4 of 4-An.

The reader will please consider, that all the intricacies of division in fractions cannot be treated in a short article like this. What I offer are only the elements.

Pupils who thus base their knowledge on a firm foundation of sense perception, and who are accustomed to solve problems in reality-not merely in figures, obtain a clear insight into fractional numbers and never find difficulty in using fractions. My pupils do not "learn," that is commit any rules first, and operate according to them afterward, but learn to do examples first. With them rules are the results obtained from practice, by "seeing, doing, and then telling about it."

II.

SUPT. W. J. BALLARD, JAMAICA, N. Y.

Give to each child several pieces of paper of equal size, about four inches square. Lead them to see that each piece may be considered a unit. Call it so.

"Tear one unit into pieces." It is done.
"Compare the pieces." Answer given that they are unequal sizes.

"Tear a unit into two equal pieces." It is done. Another into three. Another into four, &c.
"How can you let me know, without showing me, into

how many parts you divide each unit."

"Write it in words."

"That takes too much time. Suppose we agree to represent it : his way: when the unit is divided into two parts, g, when into three parts g, &c. Do those expressions mean any more than that the unit has been divided into two, three, &c. parts?

"Yes, that the parts into which each unit is divided are equal."

"What does this mean, ?"
"A unit has been divided into six equal parts."

I tear a unit into four equal parts. "John, indicate upon the board what I have done." ₄ is written.
"How many of those p rts have I taken? "None."

"I will take one. How can you show upon the board

that I have taken one?" Some one will probably suggest writing 1 over the 4.

"Right. Now we have 1. What does that expression show? "That a unit has been divided into four equal parts

and that one of those parts has been taken.

"Right; such expressions are fractions; the number which shows into how many equal parts the unit was divided, is the denominator; the number which shows how many parts were taken, is the numerator. Divide a unit into three equal parts and take all of them. What do you notice?"

"We have taken the whole unit."

"See whether it is true when you divide a unit into four, five, and six parts, and take all." "Yes."

"Then each expression: ‡, ‡, ‡, &c. is equal to what?" "A unit."

"Take two units, divide each into four equal parts, and take five of the parts. What do you notice?

"I have taken more than a unit."

"Yes, and any fraction that represents a unit, or more than a unit is an improper fraction. When it represents less than a unit it is a proper fraction."

"Divide a unit into two equal parts. Each part is called what?" "One half."

"Divide each half into two equal parts. Into how many equal parts have you now divided the unit?"

"Each part is called what?" "One-fourth."

"Each half makes how many fourths?" "Two." Show that upon the board. 1=1. "Divide each fourth into two equal parts. How many

equal parts have you?" "Eight." "Each fourth makes bow many eighths." "Two."

Show that upon the board. 1=1. "Then two fourths equals how many eighths?" " Four."

Now we have \frac{1}{2}=\frac{1}{4}, and we can show in the same way that 1=1 = 11

In the same way the children show that:

We see that if we divide one unit into two times as many parts as another, and take two times as many we take just as much of one unit as of the other: the same is true if we divide one unit into four times as many parts as another, and take four times as many

"Now, if I multiply both numerator and denominator $3 \times 6 = 18$ by the same number, as for example: $4 \times 6 = 24$

what must be true with regard to 1 and 11? "They are equal."

"Why?" "Because in 11 a unit has been divided into six times as many equal parts as in ‡, and six times as many of those equal parts have been taken."

In the same way show that both numerator and denominator may be divided without damaging the value of the fraction.

"Divide two units into fourths. Take two; now take one more. How many parts have you taken? "Three."

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"And they are three what?" "Three fourths."

"Drill in this way until the pupils see clearly that halves may be added to halves, fourths to fourths, &c.

Now take one fourth and one half. How many parts have you?" "Two."

"What are they?" "One half and one fourth."

"That won't do. I wish the answer in one fraction. Children probably come to the conclusion that I am asking for an impossibility.

"If both were halves, would their be any difficulty?" " No."

"If both were fourths?" "No."

"Well, see what you can do with them."

Somebody will see that the half is equal to two fourths. "Now what have you." "Two fourths and one fourth."
"Their sum equals what?" "Three fourths."

Proceed in the same way with { and }; { and }, &c.

"Now take | and |, and add."

Children are sadly puzzled as't what to do. By the way let them take two whole units every time, and, as in the above, divide one into halves and the other into thirds.

"What is the trouble."

"We can't change the half to thirds, nor the third to halves.

"Try changing both to something else." Somebody sees that the half may be changed to fourths; it is seen, however, that the third cannot. Some one will see that the third can be changed to sixths, and several will at once see that the halves can also.

"Now, what have you?"

"Three sixths and two sixths."

"Adding them you have what?" "Five sixths." Proceed in the same way with subtraction.

"Take two thirds and lay them down together, do the same with another two thirds, with another, with another. You have taken two thirds now how many times?" "Four times."

"How many thirds have you?" "Eight."

"When the same number is taken several times, what has been done with that number?"

"It has been multiplied."

"Then what did you do with two thirds?"

"Multiplied it by four."

"Can you multiply four by one half?" Children will be a little puzzled: they will probably conclude that it is quite possible.

" Take four units three times. How many have you?

"Twelve."

Take them two times. How many have you? "Eight."

"One time; how many have you?" "Four."

"Take them balf a time."

Children will be a little uncertain what to do. Probably somebody will, however, take two.

"Did you take the four at all?" "No."

What did you do?" "Took one half of four."

"Which is quite another thing."

"Take twelve units, separate them into two equal pe is. How many in each part." "Six."

"Take six. What part of the twelve have you taken?"

"One half."

"Separate the twelve units into four equal parts. How many in each part?" "Three.

"Take three. What part of the twelve have you taken?" "One fourth."

"Then in taking one half, one third, one fourth, &c. What do you do?" "Separate the number into two, three. four, &c., equal parts, and take one of the parts.

"Take two thirds of twelve." The pupils will, after a little thinking, separate twelve into three equal parts, and take two of them ; giving eight for the answer.

"Then to take two thirds, three fourths &c., of a number, what do you do?"

"Separate the number into three, four, &c. equal parts: nd take two, three, &c., of those parts.'

" Take two thirds of sixth ninths."

They will separate the six ninths into three equal parts, take two of them, and give four ninths as the

"Take three fourths of two thirds.

The children will see that the two thirds can be divided into only two equal parts ; they will, however, soon see that if they divide each of the thirds into two equal parts they will have four equal parts each being a sixth. Separating the four sixths into four equal parts, and taking three of them they give three sixths as the answer.

"We will now write some problems upon the board. Take | of |.

The | must be changed so that it can be separated into four equal parts. We do this by multiplying both terms of 1 by 4, we obtain 13; taking one of the four equal parts as required, we have 11 for the answer.

Take ‡ of ‡. As before, the ‡ must be changed so that it can be separated into into three equal parts. Multiplying both terms by 3 we obtain 14. Separating 14 into three equal parts, we have in in each, and taking two of them as required, we have for the answer, 19.

But we are doing more work than is necessary. Take of 1. If we multiply both terms by two, we obtain 1. as we are required to take but one of them our answer is }, which we would have obtained by multiplying the 3 by 2 and writing the product under the 1.

Take 1 of 1. To take 1 of 1 we multiply 8 by 4 and write 32 under 5, which gives us 4; we are required to take 1, so taking three times 1, we obtain for the answer 11.

Taking some of the problems we have worked we can find a general rule. We found that:

4 of 4=44. 4 of 4=4. # of #=##.

The children will give the rule, if one is required, with out any difficulty.

"Well, such problems are usually placed under the head of 'Multiplication of Fractions.' We have seen, how ever, that, strictly speaking, that they are not proble in multiplication, but we won't quarrel with the arithmetics.

III.

PROF. SOLOMON SIAS, SCHOHARIE, N. Y.

To easily understand the division of fractions it is best to review some of the principles underlying the idea of fractions. Draw on the board in a horizontal line six short lines representing fourths, of the same length, ---, also with the fraction 1. "I wish to divide these fourths by two, how many fourths will there be in each part?" "Three." "Suppose I had divided by three, how many in each part?" "Two." "Two what?" "Two fourths." "Why fourths?" "Because you are working with fourths.'

Now, put on the board a variety of examples, being careful in each case the numerator is exactly divisible by the number used as a divisor. Now, write thes fractions on the board, putting a comma between the dividend and divisor, and writing the divisor below the horizontal line. The work will look like this:

1, y - 1; 1, y - 1; 1, y - 1; etc.

I have tried using cancellation at this stage, but find it does not work well; it is apt to confuse in subsequent

"I wish to divide five fourths by two, how many in ach part?" "You cannot do it." "Yes, I can." "You will have two fourths and half a fourth in each part." Draw in a horizontal line the five fourths, and under it the result of the division, "How many "How many

eighths have you taken?" "Five." "Which term of the fraction, then. have you changed?" "The denomi-"How?" "Made each part one-half as large." "What have we found the denominator was in funda mental arithmetic?" "The divisor." "By what prin ciple then have you worked?" "Multiplying the divisor divides the quotient."

Put now on the board a variety of examples, in some which the numerator is divided, in some the denomi- four times too large, and must therefore be divided by

nator is multiplied, being careful in each example that the numerator of the dividing fraction is or

"I wish to divide five fourths by two thirds." "You cannot do it." "Why not?" "Because the fractions are of different kinds." "Can I reduce the fourths to thirds?" "No, sir." "The thirds to fourths?" "No, sir." "What can I do?" "Reduce them to a common denominator." "What will that be?" "Twelve." "How " Fifteen much will the five fourths be, then?" twelfths." "And the two thirds?" "Eight twelfths." 'What will you do, then?' "Divide the fifteen by the eight." "Where will you write the fifteen?"
"Above the horizontal line." "The eight?" "Below the eight." "The eight?" "Below the line."

Now, write this talk on the board :

1.4: 1×1-11: 1×1-4: 15 -4 . "Now, what have we done with the numerators?" Multiplied the numerator of the first by the denominator of the second, and the numerator of the second by the denominator of the first fraction."

"Now, then, practically, instead of going through this long process of reducing to fractions having a common denominator and then dividing, I can shorten the work by multiplying the first numerator by the second denominator, and the second numerator by the first denominator. So to save time and labor, and to prevent any mistake. I invert the fraction used as a divisor and multiply. My work, then, is like this:

 $\frac{1}{4} + \frac{1}{4} - \frac{1}{4} \times \frac{1}{4} - \frac{14}{4}$, answer What have I omitted?" "The common denominator." "Why?" "Because that is merely the name of the quantities used, and the numerator is the real quantity

IV.

MISS ROXIE TUTTLE, GLENS FALLS, N. Y.

The teacher should, by the use of objects, make pupils familiar with the idea of fractional parts of units and fractional parts of numbers. Strips of paper of uniform length are convenient for this purpose, as pupils can fold them to represent whatever fractional part they may wish, and by measuring them can make for themselves various little fractional problems. Pencils, shoe-pegs, tooth-picks, beans, &c. may be used to show fractional parts of numbers. Each new process, as discussed should be thus illustrated; but having served their turn, objects should be discarded, and the pupils required to abstract the ideas gained therefrom.

In addition and subtraction of fractions pupils who have been trained to think about their work will know "like units only can be added and subtracted;" they will therefore, when required to find the sum or difference of fractions unlike in name, refuse to perform the operation, until they see or are led to see a way out of the difficulty. Not much "leading," however, is necessary with a class of ordinarily bright pupils; someone is ready with the suggestion, "Why, make them alike, of course ! "

Multiplication and division of fractions should be taught together, beginning with the simplest process, that of, (1.) Multiplying or dividing a fraction by an integer. By the use of objects, show that the fraction may be increased or diminished by increasing or diminishing the number of the parts, also by increasing or diminishing the size of the parts; in other words, " multiplying numerator or dividing the denominator multiplies the fraction; dividing the numerator or multiplying the denominator divides the fraction.'

(2.) Multiplying or dividing a fraction by a fraction aving one for its numerator. Using objects as before, lead pupils to see that multiplying by one of the equal parts of a unit is equivalent to dividing by the number of parts into which the unit was divided, and that dividing by one of the equal parts of a unit is equivalent to multiplying by the number of parts into which the unit was divided, both of which operations they have already learned to perform.

(3.) Multiplying or dividing a fraction by a fraction whose numerator is more than one. This process being merely a combination of preceding ones, will be easy or difficult of comprehension, according as the pupils' understanding of former processes is clear or confused. Illustrating this: Let it be required to multiply # by \$. As shown in (2.) $4 \times 4 - 4$. 4×4 would be four times as

great as $\frac{1}{2} \times \frac{1}{2}$, or four times $\frac{1}{16}$. Hence, $\frac{1}{4} \times \frac{1}{4} - \frac{1}{16}$. Now let it be required to divide $\frac{1}{4}$ by $\frac{1}{4}$. $\frac{1}{4} + \frac{1}{4} - \frac{1}{4}$. Having learned by former experiments that the quotient resulting from any division is as many times too great as the divisor is too small, pupils will see that having divided by † only, the quotient resulting therefrom is four, which they do by multiplying the denominator by four; thus, $\frac{1}{4} \div \frac{1}{4} = \frac{1}{4}\frac{1}{4}$. It is better to say nothing about "inverting the divisor," but leave the proposition to do so to be made by some bright pupil who sees that it would be a more convenient arrangement.

V.

SUPT. C. JACOBUS, NEW BRUNSWICK, N. J.

[NOTE.—It is presumed, of course, that scholars understand thoroughly the definition of terms employed, the multiplication of fractions, the reasoning necessary to express the analysis of division in correct language, and the several steps in fractions up to this point.]

Pupils, because not taught to think, will apply the reasoning quickly with concrete forms, but slowly when purely fractional forms are employed. They should be taught to see that an introduction of a numerical denominator for a verbal one does not change the reasoning in the least. Introducing an example with concrete numbers, viz., "If 9 yards of ribbon cost 1 of a dollar, what will one yard cost?" we have by the familiar analysis: -"If 9 yards of ribbon cost 1 of a dollar, one yard will cost 1 of 1 of a dollar." Having been taught multiplication of fractions, the form of a compound fraction which the analysis gives († of †) is solved by the rule already mastered. But this is not sufficient to most pupils for they do not always readily see hou multiplication finally is brought in to perform the division. Start from former principles, viz., ask what is meant by \(\frac{1}{2} \) of anything. The answer: "When anything is divided into nine equal parts one of those parts is called one-ninth," will make pupils ready for the explanation of the process of dividing 4 into nine equal parts, as follows. If when one whole dollar is divided mto nine equal parts, one of those parts is 1 of a dollar, when one-half of a dollar is divided into nine equal parts it is evident the parts will be 1 as large, or (so to speak) twice as small. The multiplication therefore of the denominator by 2, diminishing the size of the parts, will bring the needed denominator (9×2-18), hence the division of one-half by 9 (omitting concrete terms) produces Is and the rule may be established, that multiplying the denominator of a fraction by a whole number divides the fraction by that number, as it decreases the value of the fraction, by increasing the number of parts into which the unit is divided. This is equivalent to inverting th divisor and proceeding as in multiplication.

Let it be required to divide a whole number by a fraction. One way is, to reduce the whole number to the denomination expressed by the denominator of the divisor, and then divide similarly to the process for concrete numbers. Thus in 9 there are 18 halves; and 1 half is contained in 18 halves, 18 times. If, however, the numerator of the divisor is some other number than unity as in \{\frac{1}{3}}, after finding how many times \{\frac{1}{3}} is contained as above, it is evident \{\frac{1}{3}} will be contained \{\frac{1}{3}} as many times, or six times, which, again, is equivalent to inverting the divisor and proceeding as in multiplication.

Let it be required to divide § by §. By the first case, let us divide the dividend § by the numerator of the divisor 8, the result is §. But this result is too small for the actual result of dividing § by §. For § is § of 8 or (so to speak) nine times smaller, hence to complete the division of § by § we must multiply § by nine, making § §. This, again, is equivalent to inverting the terms of the divisor and proceeding as in multiplication.

Hence, by each of these methods, the rule for "Division, in which fractions are involved, either as dividend or divisor," may be established and its principles mastered. RULE.—"Invert the divisor and proceed as in multiplication of fractions." Remembering, of course, that whole numbers may be regarded as of a fractional form with unity for their denominators.

VI.

SUPT. DAVID BEATTIE, TROY, N. Y.

If the time and ability of the pupils allow it, we proceed step by step, analytically, trying to fix by much practice each step in the successive operations. First teach the division of a simple fraction by an integer: as \(\frac{1}{2} + 2, \frac{1}{2} + 3, \text{ and the like.} \) This is comparatively easy. When the analysis of this is accomplished and the children have the swing of it, lead them to observe what has been done mechanically, (so to speak), that is, that we multiply the denominator of the fraction by the integral divisor. The next step shows, in a similiar way, that \(\frac{1}{2} + 3, \frac{1}{2} + 3 \) and the like, undergo a like treatment; but that \(\frac{1}{2} + 3 - \frac{1}{12} - \frac{1}{2} \), may be reached more quickly by dividing the numerator by the integral divisor. When many problems have made this clear, we are ready for

the deduced rule:—Divide the numerator of the fraction when ever I can, multiply the denominator when I must.

I do not think the reverse operation of dividing an integer by a fraction is so important as to require much time here. But if the teacher prefers to introduce it here, let it be done, and let the treatment be similar to the above, as, $3+\frac{1}{4}$, $3+\frac{1}{4}$, followed by $3+\frac{3}{4}$, $3+\frac{1}{4}$ and the like, reaching the *mechanical* method as we did before, thus introducing the idea of inverting the divisor, simply because it is mechanically convenient.

I prefer to go on from my first rule, showing that when I divide, say $\frac{1}{2} \div 4$, and obtain $\frac{1}{15}$, I must obtain an answer 5 times as great if I use a divisor $\frac{1}{2}$ as great as 4, or $\frac{1}{2}$, and this result must be 5 times $\frac{1}{15}$, or $\frac{1}{25}$. By much practice, familiarize the pupils with this process, then as before find out what we we have been doing practically, and fix the rule for it.

We have been in effect multiplying our dividend by the inverted divisor, and at the same time reducing the result to the lowest terms. I learned my division of fractions from old Colburn's Mental Arithmetic, and bless his memory. I am just old-fashioned enough to believe in the use of a good mental arithmetic, separate from the slate arithmetic, just because my experience proves that we do the best work by that plan.

When time is limited, dash into the midst of the work, teach the rule, without the reason why, and fix the process with abundant practice.

In any case, by my method, don't forget that PRACTICE is the key to success. I do not need to say that the objective method must not be overlooked. But the goal to be gained is knowledge of division of fractions in the abstract, and readiness in the performance of the work.

VII.

PROF. Z. RICHARDS, WASHINGTON, D. C.

When fractions are simplified and properly prepared, there are only four ways of using them, viz.; adding, subtracting, multiplying, and dividing. In using them we must first consider the kind of fraction; second, the name; third, the form. Fractions cannot be added, subtracted, or compared, unless they are first of the same kind. To be of the same kind, they must e of the same denominate units; as parts of dollar, or of a pound, or of a mile, etc. Again, they must be of the same name; that is, equal parts of equal value of the same thing; and, finally, they must have a simple form; that is, a whole number for the numerator, and a whole number for the denominator. Compound, complex, and mixed fractions must be reduced to a simple form of the same name. If these conditions are observed, they can be used as simple numbers, if the name is kept in mind.

As we cannot add or subtract units and tens in common whole numbers without changing them to the same name, so, if we would add or subtract fractions, we must first change them to the same form and the same name.

To multiply a fraction by a fraction, or to find the fractional part of a fraction, we must multiply the numerator of the fractional multiplicand by the numerator of the fractional multiplier, as in multiplying a whole number, and divide the product by the denominator of the multiplier, by multiplying it into the denominator of the multiplicand, which process is equivalent to "multiplying the numerators for a new numerator, and the denominators for a new denominator," thus: $\frac{1}{2} \times \frac{1}{2} = \frac{1}{2} \frac{1}{2} + 7 = \frac{1}{2} \frac{1}{2}$; or $\frac{1}{2} \times \frac{1}{2} = \frac{1}{2} \frac{1}{2} \frac{1}{2}$.

Again, to divide fractions:

1. To divide a fraction by a whole number, we divide the numerator, if it is a multiple, by the whole number, thereby diminishing the number of parts taken, but leaving the size unchanged; or we multiply the denominator of the fractional dividend by the whole number, thereby diminishing the size of the parts, and leaving the number of parts unchanged, thus: $\frac{a}{11} + 3 = \frac{a}{11}$, or $\frac{a}{11} + 3 = \frac{a}{11}$.

2. To divide a whole number by a fraction, we reduce the whole number to parts of the same name and same value as the denominator of the divisor, and then divide this result by the numerator of the divisor, thus: $3+\frac{\pi}{4}$ = $\frac{\pi}{4}$ = $\frac{\pi}{4}$ = $\frac{\pi}{4}$ = $\frac{\pi}{4}$.

3. To divide a fraction by a fraction, we change both fractions to a simple form of the same name, and divide the numerator of the dividend by the numerator of the divisor, thus: \$\frac{1}{2} + \frac{1}{2} - \fra

divisor, thus: $\frac{2}{3} + \frac{1}{3} = \frac{1}{13} + \frac{1}{12} = \frac{1}{3}$. This is the same as inverting the divisor and multiplying the numerators for a new numerator, and the denominators for a new denominator. Again: $\frac{4}{3} + \frac{1}{3} = \frac{1}{3} + \frac{1}{3} = \frac{1}{3} + \frac{1}{3} = \frac{1}{3} + \frac{1}{3} = \frac$

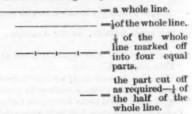
Every essential operation in every variety of common fractions is explained and illustrated above.

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VIII

SUPT. H. S. JONES, ERIE, PA

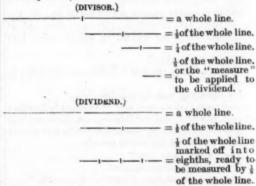
In teaching the multiplication of one fraction by another, the multiplier serves as a sort of knife or pair of shears, telling how much of the multiplicand is to be cut off. It does not appear as an object, as does the multiplicand, in showing the process objectively. For instance, in multiplying \(\frac{1}{2}\) by \(\frac{1}{4}\); the knife is \(\frac{1}{4}\), the object to be cut is one-half of something; suppose this object to be a line, then the "showing" may be as follows:



In marking off the line so as to get the \(\frac{1}{2} \) of the whole line, and in marking off the \(\frac{1}{2} \) of the whole line, the pupils should not be told what is to be done. What is required must be placed before them clearly and emphatically, and the doing brought out by proper questions. The steps may be, (1) What part of a whole thing do we want to "cut" something from? (2) How many of the equal parts of this half of a whole thing do we want to "cut" off? (3) Then into how many equal parts must we mark off the half line so we can tell where to "cut?" (4) What shall we call these equal parts marked off? (5) What shall we call this one-fourth of one-half of the whole line which we have cut off?

In dividing one fraction by another, and showing the same objectively, the dividend and the divisor both appear as objects; the dividend as something to be measured, and the divisor as the thing to measure with. The result reached is not an object, as in multiplication.

In dividing \(\frac{1}{2} \) by \(\frac{1}{6} \), it is required to find how many times \(\frac{1}{2} \) of a whole thing will contain \(\frac{1}{6} \) of a whole thing of the same size. In showing it by lines, the process may be as follows:



It will be seen that \(\frac{1}{2} \) of the whole line can be placed 4 \(times \) on \(\frac{4}{2} \) or one-half of the whole line,

IX.

SUPT. M. S. CROSBY, WATERBURY, CONN.

At the very beginning of written work in fractions the child has been taught that a fraction is a form of expressing division, the dividend being written over the divisor. Therefore when one fraction is to be divided by another, the divisor may be written under the dividend forming a complex fraction, $\frac{2}{3} + \frac{3}{7} = \frac{\frac{3}{12}}{2}$ This

complex fraction can be reduced to a simple form by multiplying both its numerator and denominator by the same quantity, viz.; The denominator inverted $\begin{array}{c} \frac{1}{4} \times \frac{3}{4} = \frac{\frac{1}{4}\frac{1}{4}}{1} \end{array}$

The denominator 1 can be omitted, as it does not affect the value of the fraction. If one of the terms is a mixed number write the terms in a fractional form and multiply both by the denominator found in the mixed num-

ber. For example: $5\frac{3}{4} + 3 - \frac{5\frac{3}{4}}{3}$ Multiply both terms by 7 we have $\frac{3}{4}\frac{7}{4}$. Again, divide 9 by $4\frac{1}{8}$ or $\frac{9}{4\frac{1}{8}}$. Multiply both terms

ply both terms by 8 we have \$\frac{2}{4}\$.

When one term is a whole number and the other a fraction, inspection should determine whether it will be easier to divide the numerator or multiply the denominator.

If arithmetic is taught in the best manner, instruction in fractions should begin with the early work in number in the first year of the primary school. By the close of that year the child has learned addition, subtraction,

multiplication, and division, both of simple numbers and of fractions, as far as the number ten. He has learned to think in numbers, and he no more needs rules and explanations for fractional or other work than he needs to know the rules of grammar in order to form a correct sentence out of his little vocabulary of words.

X.

MISS ALIDA A. WOODIN, FLUBHING, N. Y.

First, give the pupil a clear idea of a fraction; half the bettle is won when this is accomplished. Illustrate until he can think a fraction—can see a number of equal parts of everything. To illustrate the division of a unit, divide an apple or a circle of paper, rather than a square or line; the pupil sees more clearly that the divisions are parts compared with the unit divided. The dollar used as a unit and as one hundred cents, forms a good connecting link between the unit and the group regarded as a unit. In addition and subtraction, divide one circle into thirds, a second equal circle into fourths, a third equal circle into twelfths; put $\frac{1}{12}$ on $\frac{1}{2}$ and $\frac{1}{13}$ on $\frac{1}{4}$, showing that $\frac{1}{4}+\frac{1}{4}=\frac{7}{4}$. Repeat similar illustrations until pupil sees why the fractions must have like denominators, then drill for mechanical accuracy and rapidity.

In division, the pupil understands that dividing one number by another is simply measuring one by the other: $\frac{a}{4} + 4$ means $\frac{a}{4}$ measured by 4. In order to do this they must be alike, so we change the 4 to thirds, and have $\frac{a}{4}$ measured by $\frac{1}{4}$; the first is $\frac{a}{14}$, or $\frac{1}{4}$ the second; hence, $\frac{a}{4} + 4 = \frac{1}{4}$. Repeat such illustrations; then show that by a shorter way the same result is found, inverting divisor and working as in multiplica-

Cases II. and III. are explained same as Case I. After fully illustrating each case, drill for mechanical accuracy and rapidity.

XI.

PRINCIPAL T. HOWERTON, IUKA, MISS.

My first effort is to get the idea of the fraction-the "fractional conception"-in the minds of my pupils. To do this pay very little attention to book definitions. and much to objects. I never have found anything better than the crayon we use at the board. It is easily broken into halves, fourths, and even sixteenths. Then it is as good as anything for illustrating the fact that two halves, three thirds, four fourths, etc., make a unit. Too much attention cannot be given to the terms numerator and denominator. The idea of the common denominator is obtained from the pieces of chalk; and so far as addition and subtraction are concerned, it is just as easy as addition and subtraction of simple denominate whole numbers. Impress the idea that the denominator bears the same relation to the work and to the sum or difference as does the denomination of pounds, bushels, or horses in concrete numbers.

The idea of division can early be obtained from our pieces of crayon. I never had any trouble in teaching a class that inverting the divisior shows how many times it is contained in unity. This can be easily illustrated with objects. The sooner it is taught understandingly the better.

XII.

SUPT. WM. N. BARRINGER, NEWARK, N. J.

I would say in brief that in teaching fractions I always endeavor to impress the pupil with the operations that are alike in nature, taking great pains to have the pupils obtain clear and definite ideas of the elementary steps.

If the pupil clearly sees that there is no real difference between integers and fractions, most of the trouble in teaching fractions will disappear. A pupil can be readily led to see and understand that a whole half of an apple is just as much a whole thing as a whole apple is, and that it can be added, subtracted, multiplied, and divided as easily as integers can.

For example: Ask a pupil how many times 1 is contained in 1, and he will at once tell you that it is contained once. Ask him how many times \(\frac{1}{2}\) is contained in \(\frac{1}{2}\), and he will tell you once. A few illustrations of this kind will lead the pupil to see that fractions having common denominators can be handled the same as integers. When he comes to see this, his trouble in handling fractions will end, provided he has correct notions of the elementary steps in numbers. The only real difficulty in fractions is in bringing them to a common denomination.

lilustration: Give examples of this kind: "A boy buys 4 hats and 3 knives, how many hats did he buy." In

most cases the pupil will say 7. Now is the time to show the necessity for a common name or denomination. Show him that the words object, thing, or article, will make the operation perfectly easy. He buys 7 things

What I have said will apply to all the fundamental operations.

XIII.

MASTER G. E. NICHOLS, SOMERVILLE, MASS.

I am required to divide \(\frac{1}{2}\) by \(\frac{1}{4}\). First, I would divide \(\frac{2}{3}\) by 1. The integer 1 will be contained in \(\frac{1}{4}\) two-thirds of one time. Secondly, I would divide \(\frac{2}{3}\) by \(\frac{1}{4}\). Since the integer 1 is contained in \(\frac{1}{4}\) two-thirds of one time, it is obvious that a divisor (\(\frac{1}{4}\)) only one fourth as large will be contained four times as many time, or \(\frac{1}{4}\) times Thirdly, since \(\frac{1}{4}\) is contained \(\frac{1}{4}\) times in \(\frac{1}{4}\), it is clear that a divisor (\(\frac{1}{4}\)) three times as large will be contained only \(\frac{1}{4}\) as many times, and \(\frac{1}{4}\) of \(\frac{1}{4}\) is \(\frac{1}{4}\). Hence the rule for division of fractions—never the divisor, etc.

TEACHING MORALITY IN THE PUBLIC SCHOOLS. By E. P. W.

One of the correspondents of the School Journal, Mr. J. Fairbanks, makes several inquiries in relation to the teaching of morality in the public schools. This is a subject in which I am deeply interested and to which I have devoted much time and study. No one can answer Mr. Fairbank's inquiries briefly without answering them dogmatically, since any definite answer to any one of the questions is likely to be disputed. I feel called upon, however, to briefly express my own convictions, and if I can find the time to do so I will attempt in some future number of the Journal to give some practical suggestions relative to the methods to be employed in giving moral instruction to the children of our public schools.

Who is qualified to teach morals? No one is perfect, hence no one is fully qualified to teach morals. A teacher of morals should have high idea's and noble purposes in life; he should be as true to his own convictions of duty as the magnetic needle is to the pole; his heart should be overflowing with love to his fellow beings; he should have faith in God and realize his accountability to him: he should be able to create and maintain around himself an atmosphere of moral excellence; and that uncon cious influence which flows from every human being and which has its source deep in the hidden recesses of the heart, must be clear in its crystal pucity and warm and fragrant with sympathy and love. He must, morever, realize that his pupils are the possessors of immortal souls of price less value which he is helping to train for eternity, and he should understand the principles upon which all good moral training must be conducted, and the methods best adapted to secure the end in view; and he must have that peculiar faculty or power of inspiring those with whom he mes in contact with a sincere and earnest purpose to be true to themselves, kind and helpful to others, and obedient. fai bful, and loving children of their Heavenly Father.

Well may the conscions teacher pause, and with solemn earnestness ask, "Who is sufficient for these things?"

What can the teacher of morals accomplish? A very great deal. The petty tape lines and scales of man cannot measure nor weigh the infinite good that may be accomplished by the judicious teaching of morality. A few vords, a smile even, or a frown, may suffice to turn the whole current of a child's life; and upon the life of that child may depend the weal or woe of hundreds or thousands yet unborn. Who lifted that drunkard to his feet and inspired him with a hope that enabled him to break the bonds of his evil habits, and freed him from the slavery of sin! Thousands of men and women, boys and girls owe an im measurable debt of gratitude to the one man whose sympa thetic words and helpful deeds transformed John B. Gough from a worthless vagabond whose only influence was evil. into a noble and pure-minded man. How much Captain Cyrus Sturdivant accomplished when on his knees in the convict's cell he led Francis Murphy from darkness into light; and many a drunkard's hovel has become a home, and many a wife's heart has been made glad, and many a child has been saved from ruin in consequence of that manly deed. The good done in that prison cell will never die; it will live on, a precious heritage which each generation bequeathes to the succeeding generation, and though speedily lost to the finite eye of man, it will roll on ever increasing volume and velocity through the ages of time.

In youth the heart is tender and it may then be easily impressed with lessons of morality. A teacher of youth has peculiar opportunities and he fails to discharge his whole duty to his pupils unless he strives earnestly and faithfully to develop their moral natures, and to train them to think right, to feel right, andto act right. Many teachers have been faithful in this respect in the past, and have exerted over their pupils a powerful influence for good, and to-day from high places of trust and responsibility as well as from the lower stations of life those same pupils look back with pleasure upon their school days and with grateful feelings think of their "dear old teachers."

Are the people of the world to-day more moral than in the past? Yes; the highest state of morals prevails in this present age, but the standard of morality must steadily advance as the world grows older. What nation is the most moral? That nation whose people love the Lord their God with all their hearts, and with all their souls, and with all their minds, and with all their strength, and love their neighbors as themselves. What religious faith is the most moral? That faith which inculcates most successfully the two great commandments, Love to God, and Love to man.

Have we made any progress in teaching morals, and can we? and if so, how? We have not made as much progress as we ought. We can, and I believe we will, make greater progress in the future. First, we must realize that all morality is based upon religion and that it cannot be taught successfully apart from religion. By religion i do not mean creeds, nor churches, nor sects, nor sacraments, but I mean love to God and love to man as revealed by our Savior, Jesus Christ. We must study the laws of moral growth, and we must invent methods of instruction based upon those laws. Here is a grea' field of labor, and a rich reward is awaiting the successful laborers therein.

Furthermore we must remember the immense power of that influence which every teacher exerts unconsciously for good or evil. His own heart must be right in order that this influence may be right. It is not necessary that a teacher shall belong to any particular church in order to teach morality successfully, but it is necessary that he shall have correct views on the great problems of human existence, human responsibility, and human destiny. Agnostics are in spiritual darkness and hence are not qualified to teach morality; they should never be allowed to teach school.

I have used the word "teaching" in its widest signification so as to include the unconscious influence exerted by
the teacher, the influences of school organization, methods
of study and discipline, etc., as well as the deliberate and
systematic attempts of the teacher to inculcate the principles of morality and to cause the pupil to know right
from wrong, and to choose to do the right in preference to
the wrong. I firmly believe that when the laws of moral
growth are understood it will be perceived that practical
methods of moral training and instruction can be devised,
which when employed in our public schools by competent
and faithful teachers, will be successful in raising our
nation's standard of morality, and in peopling our land
with nobler men and women.

Readers of the SCHOOL JOURNAL, will you not give us your ideas upon this important subject?

PERSONS AND FACTS.

State Governors and other delegates held a meeting in Philadelphia to arrange for a suitable celebration of the one hundredth anniversary of the founding of the Constitution.

On or about January 1, Messrs. Ginn & Co. wiil publish the "Dante Handbook," by Giovanni A. Scartazzini; translated, with notes and addition, by Thomas Davidson, M.A.

A curious trial is going on in Berlin. Four women are charged with having infringed certain clauses of the law regarding associations by dabbling in politics at the meetings of two societies for the protection of workwomen and for endeavoring to lead other societies astray.

Cassell & Co. have put up four little books in four little boxes, in which are rung, "Holy Chimes," "Old World Chimes," and "Bible Chimes." Each lilliputian volume is bound in red crepe cloth, and filled with inspiring words and appropriate illustrations and decorations.

The extradition treaty with Japan has been proclaimed by the

MRS. FREMONT is now absorbingly occupied with Gen. Fremont upon his "Memoirs," but she has written four papers for Wide-Awake for 1887; three of them are "Taffy and Buster" stories—stories of her Shetland ponies and all "mixed up" with our Civil War. The fourth is, "My Day in Copenhagen with Hans

Losses by fire in the United States in November amounted to about \$10,000,000.

On December 10th Mr. James N. Sawin, of Providence, R. I., issued his Seventh Annual List of Books and Periodicals for Young People. All teachers ought to have one of these and can get one by applying to Mr. Sawin.

Philadelphia society has been shocked by the discovery and inarceration of Dr. Lloyd Herzog as a kleptomaniae.

The supplement of every fourth number of Science (weekly) will bereafter be devoted to education and pedagogics—another periodical wheeling into line.

"Henry Clay" is the subject of two very interesting articles in the December Century.

Captain Tilton, of Camden, N. J., and his crew of six men were rescued from the waterlegged schooner Samuel H. Crawford by the steamer Orinoco and brought to this port.

There is a pretty little story in the life of a school teacher, entitled "At Rickettaes" Play Party," in the Southern Birouac for December. It is a little bit of light reading.

Dr. John P. Gray, Superintendent of the New York State Insane Asylum, and one of the most fam .us alienists in the world, recently died.

Cholera is said to be spreading in South America.

It is stated that the Standard Oil Company has acquired very large interests in Russia petroleum and naphtha companies,

THINGS OF TO-DAY.

Mr. H. M. Hoxie, General Manager of the Missouri Pacific Rail-oad, whose name was so prominently before the public in con-ection with the great strike last spring, recently died in New

An incident of the great kult goods strike in Amsterdams the a rest of ninety men and women for "picket

The report of the Postmaster-General shows that the expe the report of the rostmaster-general shows that the expenses of the department exceeded its revenues by \$6,700,000 the last facal year, a decided gain over the year before. The reduction in postage, the postal note, the special ten-cent delivery, and the letter-sheets, all seem to be successful experiment.

The State Department is considering a treaty with the Tonga At a meeting of the members of the Central Labor Union o

New York City to discuss the recent election, resolutions were passed denouncing the leaders of the Republican and Democratic "machines" as "dangerous Anarchists of the most malignant

The Ohio Trade and Labor Assembly has adopted re favoring international arbitration.

By a mine explosion at Wilkesbarre, Pa., twelve men wer ed and many injured.

The passage of the Niagara Rapids has again been made in a barrel, this time by a woman in company with a man

The Report of the Superintendent of the Life Saving Service r the last year shows an unprecedented number of storms; 33 is met with disasters within the field of station operation and of the 2,724 persons on board all but 27 were saved.

In Paris, recently, a meeting of Radicals was attach dispersed by Anarchists.

Charleston, S. C., has experienced another slight earthquak shock, the first for some weeks

MR. GLADSTONE is reported as saying that there are now in th Universities ten times as many infidels and athesists as when he was a student; but that there are, on the other hand, twenty times as many devout and earnest seekers after truth. This -come to us a judicious presentation of the case as regards Christianity on the present day.

One of the largest stores in Paris claims to have sold more the \$1.000,00 in gloves to American Visitors this year outside of the wholesale orders from importers.

The King and Queen of Corea, that "Hermit Nation." as it a styled, have formally retained American physicians in constan court attendance, pensioning off the the native practitioners. Di Allen an ! Miss Allen have taken the position.

QUEEN VICTORIA has her thirtieth grandchild by the birth of son to her youngest daughter, the Princess Beatrice

Great Britian has annexed the island of Socotra, in the India Ocean opposite the eastern extremity of Africa, and at the opening of the Guif of Aden, in the direct line between the Red Sea an India. It has an area of 1,300 square miles and a population of 5,000, and will be a valuable strategic point.

The census of Germany for the year 1885 shows an i the population of 411,125.

Three life-boats and twenty-one men were recently lost a Southport, England, while endeavoring to save the crew of a shi

wrecket vessel.

The trade union delegates at Columbus formed a new organization to rival the Knights of Labor, which has been named the Federation of Labor

The Baltimore and Ohio Telegraph Company denies the ru of its intended absorption by the Western Union.

EDUCATIONAL NOTES.

JAMES S. BISHOP, county superintendent, conducted the se JAMES S. BISHOP, county superintendent, conducted the second semi-annual teachers' normal institute at Huron, December 6-11. The instructors were: Sadie Ellithorpe, Altoona, Language: Jay Edwards, Wolsey, Arithmetic; W. H. Dempster, Miller, Geography and Physiology; John M. Burke, Lake Byron, History; W. F. T. Bushnell, Huron, Singing; James S. Bishop,

The objects of the institute as set forth by Supt. Bishop worthy ones, vis., to increase the efficiency of the teacher; (1) by giving some elementary knowledge of the science of teaching; (2) by illustrating and enforcing the best methods of imparting instruction; (3) by giving a correct idea of what constitutes a good school

To secure a greater uniformity in our work, in methods of or ganization, records, teaching, government; by promoting acquaintance and interchange of ideas among teachers from othe parts of the county and from grades of schools; by acquiring nal knowledge and spirit, and by securing co-op rs and officers.

To awaken greater public interest in the educational work o the county, to the end that the teacher's work may be better understood and appreciated by the public, so that better schools will be demanded, better wages paid, and better schools secured

GEORGIA.

Georgia's first Arbor Day was appropriately observed in At lanta. The exercises at the girls' high school made the principal feature of the day. The active interest of Mayor Hillyer secured such an observance of Arbor Day in Atlanta as fixes it already in popular favor, and marks the beginning of a series of beautiful

anniversaries.

About one hundred trees of the size considered best for planting had been procured on the previous day from the city's sanitary, just outside the corporate limits. Thus trees were distributed for the various public schools, eight of the finest elms and oaks being sent to the girls' high soho 1. At all the grammar schools the trees were planted about noon by the city force and the operation was watched with great interest by the pupils. At

of the schools the children named the trees for their teach rs or for some of the members of the board of educatio

The exercises were opened with an essay on arbor culture and orestry by Miss Mattie Slaton. After the exercises the frees were planted. They were set in the yard and along the sidewalk esside the school. The class tree was named for Mayor Hillyer.

There were a good many trees planted by citizens about their

premises. Enough was done to arouse a very general interest in Arbor Day, and its recurrence next year will be the occasion of a very general tree planting in this city. The people speak with an intelligent apprecia ion of the day, and evidently mean to observe

The Jefferson high school, Brooklyn, has a flourishing literat scciety. The work is laid out for sixteen evenings, popul writers, their works, scientific, and historical subjects will be di

HON. W. E. COLEMAN, State Superintendent of Public Instruc-tion, visited West Piains last Thursday and spent the day in our schools and lectured at night to a very large and appreciative udience. He thought the legislature hal made a great mistaken abolishing the county superintendency. Only one county super, had retained a county superintendent, and that county Jasper, had retain d better schools than any other in the state except two or thre had better schools than any other in the state except two or three of the large cities. After spending a day in the West Plains schools the speaker p-id the very highest compliment to the work of the teachers in the prosperous little city. He had known Prof. Wm. H. Lynch for years as one of Missourt's most efficient and ful teachers and hence was not surprised at the fine con n of the schools of West Plains. faithful t

College of Agriculture have arranged for the accommodation of the officer detailed by Secretary Whitney to instruct in the college A portion of the college carpenter shop has been temporarily assigned him, where his work in the mechanic arts can be per formed until more suitable and permanent quarters can

Hon. Stillman Humphrey, a widely known who'esale mer-chant of Concord, was recently married to Miss Ida B. Clark of South Newmarket, for some years a teacher in the public

MRS. HATTIE M. STEVENS has resigned her position as teach of the first grade grammar school at Rochester, and has accepted a position in the grammar school at Malden, Mass.

The students at New Hampton are building a gymnasium.

Twelve members of the junior class at Dartmouth will teach this

The Har

rost, '86, of Hanover, principal.

MRS. JULIA PALMER of Lisbon, who had been for years a weller, died instantly on Monday, Nov. 8, after re

known teacher, died instantly on Monday, Nov. 8, after returning from a waik with some of her pupils. The fall term of Kingston Academy opened Monday, Dec. 6 with Henry A. Hubbard, A. B., principal. Concord. State Correspondent.

The Binghamton schools have been under the supervision of Supt. Scott since 1881. The sentence method is still taught here

Supt. Scott since 1881. The sentence method is still taught here as it first started with but few modifications. The results obtained by this method are very flattering. The unanimous verdict of the primary departments this fall, was that the sentence method gave better results than they expected. It would greatly benefit other teachers throughout the Union if this method were again explained in the columns of the JOURNAL.

The schools of Port Jervis have been under the supervision of Prof. J. M. Dolph since 1884. He was principal of the academy here for six years, afterwards superintendent of schools in Honesdale, Pa., for six years. Prof. E. C. Sherman, formerly of Walnut Hill private school, Canandaigua, N. Y., has had charge of the high school since 1885. We most sincerely sympathize with Prof. Sherman in his sorrow for the loss of his wife, who died at Port Jervis, Nov. 20. She was a most estimable lady, daughter of W. R. Duryer of Rochester.

The winter session of the teachers' association of the second

W. R. Duryer of Rochester.

The winter session of the teachers' association of the second commissioner district, Steuben Co., was held at Painted Post, Dec 10 and 11. A very interesting program was carried out by the eachers of the county.

The school board of Owego has been fortunate in securing the country.

senor board of week of the second control of the securing the set of E. J. Peck, formerly of Homer, N. Y., as principal of ademy and superintendent of schools. Mr. Peck has been uccessful in incressing the average attendance and reducing med the superinte ess in the schools since he first as n September, 1886. Registration in a

n in all schools for Nove tendance in all grades, 90 per cent. Registration in academy is 346. Average attendance in academy, 92 per cent. Mr. Peck is assisted in the work by teachers who are in full sympathy with his efforts to improve the schools. The academy is an elegant as efforts to improve the schools. The ac-milding costing \$20,000.

The teachers' institute for the second of

The teachers' institute for the second commissioner district, Chautauqua, was held at Forestville, Dec. 6-10. The institute was conducted by Prof. S. H. Albro of Fredonia, N. Y., assisted by Prof. A. M. Presion of Silver Creek, Miss Elizabeth Richardson of Fredonia, Miss Mary E. Shannop, who was last year in Col. Parker's school at Normal Park, Ill., Miss Mary Morrissey of El'ington, and Miss Mary Bemis of Fredonia. Evening lectures were siven by Rev. A. LeBoy, Forestville, Dr. F. B. Palmer, Fredonia, Prof. S. H. Albro, Prof. James M. Cassety, Buffalo, Prof. L. D. Miller, Park N. V. H. Alb

H. Albro, Prof. James M. Cassety, Buffalo, Prof. L. D. Miller, Bath, N. Y.

The faculty of the New Paltz normal school has been completed with the engagement of Mr. T. L. Roberts as professor of vocal music. Mr. Roberts is a teacher of long and successful experience in New England and an old student of Professors Holt and Tufts of Boston. The faculty as now constituted is as follows: Eugene Bouton, A.M., Ph.D., principal, Civics, Ethics, Educational History, and Critic'sm; George Griffith, A.B., Science and Art of Education; John Francis Woodhull, A. B., Natural Science; Charles D. Larkins, Ph. B., Mathematics; Clara French, A. B.,

English Language and Literature, Relations of Geography; Kitty Augusta Gage, A.M., Latin and Greek; Elise Naomi Sorge, French and German; Margaret Clark Atwater, Physical Culture, Drawing and Elocution; T. L. Roberts, Vocal Music; Emily A. Comer, Teacher and Critic in the School of Practice. The school has grown so that already there is talk of engaging another teacher.

Institut	es will be held as fo	llows:	
DATE.	COUNTY.	PLACE	Instructors.
Dec. 20,	Montgomery,	Canajoharie,	H. R. Sanford and
			L. B. Newell.
Dec. 20,	Chemung,	Horseheads,	J. H. French and S. H. Albro.
Dec. 20,	2d dist. Monroe,	Spencerport,	S. H. Albro and A. P. Chapin.
Dec. 20,	1st dist. Erie,	Akron,	C. T. Barnes and I. H. Stout.

оню.

The Vinton County tead hers held a meeting at McArthur, Ohio, D cember 11, program as follows: Literary Work in School, M. J. Boblit; Objects and Methods of Recitation, Jonas Cook; Methods of Teaching Reading, Will H. S. itz; The Verb, Harvey Sison; Teacher's Work, Sup. F. S. Coultrap; Address Bill of Rights, Supt. Lewis D. Bonebrake, Athens, Ohio.

At a teachers' meeting recently hold in Fayette Co. there was in interesting battle between the "Blue-Back Speller" and the 'New Word Method." The champions for the former were two burly farmers who had once upon a time "kept school," but who long since had found more congenial employment in raising corn and cotton. The "new fangled side" was gallantly defended by a little lady-a former student and a great admirer of Colo Parker.

Packer.

To most of the audience,—people who seldom have a new idea to break the quiet monotony of their country lives—it was a very interesting contest. The "Blue backers" insisted that a child ought to begin at the beginning—that is by learning the A B C; that in no other way could they become thorough scholars. They claimed that the reason we had no such men as Webster, Clay, and Calboun to-day was that the children were brought up on "pictures, blackboard hierogliphics, etc." Miss C, answered by proposing to take from the crowd some children who did not know a letter, and show that they could learn a word as easily as they could a letter. It is needless to say that she succeeded. The champions would not "back down," but it was easy to see that the eyes of many were opened upon a brighter and better way.

etter way. Our state teachers' reading circle is well organized and is doing rood work; but it has not reached all—nor a greater part of our eachers yet. The inefficiency of school officials in many sections s the greatest obstacle.

lent, Thomas H. Paine, whose term of Our state superinten office has just expired, has done much to bring about a reform in the school-rooms of our state and a large number of teachers ave recommended his re-appointment.

The S. W. University at Jackson is well attended this year, and

much of the old routinism has been supplanted by new

urekaton. State Correspondent.

The Texas teachers are so proud of their new state superin-endent that they wish others to know of him. Oscar H. Cooper is a native Texan; he was educated by private tutors until 1868, when he went to Yale College; here he took high rank graduat-ing among the first in his class. Returning from college he established the male and female college at Henderson. In 1879 he was elected to a professorship in the state normal then in its incipiency. After serving two years here, he accepted a tutorship in Yale where he remained three years. A trip to Kurope with some time spent at the university of Beilin, finished the course of time spent at the university or Bellin, massed the course of study be had prescribed for himself. Returning to Texas in '85 he became principal of the Houston high school, but was soon called to a mere important position, for in '86 the Democratic state convention nominated him on the second bailot for the office he is soon to fill. With so practical a teacher and so prooffice he is soon to fill. With so practical a teacher and so pro-found a scholar as Prof. Cooper at the helm, our school ship must

nake wonderful progress towards her harbor.

Tyler. State Correspondent. Mrs. A. J. H. PENNYBACKER.

WISCONSIN.

M. L. BUNNELL, county superintendent of Junean County, is making strong efforts to raise the standard of teaching in his county. He has issued a very stirring appeal to his teachers, setting forth in very impressive words the work to be accomplished, the advantages of the grading system, physiology teaching, and professional reading. He is doing a good work.

NOTES FROM OUR WESTERN OFFICE.

W. W. KNOWLES, Manager

PROF. L. B. HALSEY, of Battle Creek, Mich., made us a plea call recently. He was in the city to replemish his library and look up school matters in general. Mr. Halsey is superintendent of the public schools in his town, and we hear favorable reports of his work from all quarters. He pronounces Fitch's Lectures and Swett's Methods as the best books in the pedigogical line. He bought other books, however, and I simply name his choice for the benefit of younger teachers. Col. Parker piaces Tate's Phil-osephy first on the list from the value it has been to him; while osephy hist on the list from the value it has been to him; while supt. Gastman, of Decatur, says Payne's Lectures on the Science and Art of Teaching is the best book ever written on the subject of education. These opinions are worth something to those who are wise enough to profit by the experience of others.

The question of Woman Suffrage on school matters was adopted at the recent election in Wis onsin by nearly 5,000 maching lorly. This means a measure of justice to woman and brighter

jority. This means a measure of justice to woman and brighter days for the "Badger State." It means good cheer to those who are so valiantly contending for this principle of right and justice and it does mean the "eatering wedge" which is to burst asunder the recks of prejudice, both on social and political lines, which

have enlarged and hardened under the theory and practice of the past that "Might (brutal might) makes right." Now that the sunlight can penetrate farther into these rocks their component parts shall be dis olved, and shall serve to fertilize the civilization of to day. Let the women of Wisconsin take their places, and see to it, that the schools are made more efficient and that the children receive the greatest possible guod from them. By so doing they will el-vate the individual and the state, and thus vin-dicate their right to think and to express that thought by the

There is an ordinance n the town of Streator, Ill. prohibiting children from roaming the streets at night. Who can say that this ordinance is not on the right side. To parents who cannappreciate this—let the "law" be unto them "a schoolmaster."

Whiteside county, Ill., is well organized for institute work. It consists of one central organization and five branches. We are pleased to notice from the published programs that they are starting out in good shape. The following program indicates the basis of work as recommended by the Central Association for

MEETING-Reading, The first three years' work; Discusion, How to become a strong teacher; Germany, Past, present, Future; Book Review, Uncle Tom's Cabio; Suggestions for General Exercises. Second Meeting—Writing, The first three years' work; Discussion, The effect of stimulants upon the system; Br zil, Past, present, future; Book Review, Julius Caesar; tem; Br zul, Pist, present, future; Book Review, Julius Caesa; Sugsestions as before. Third Meeting—Languege, The first three years' work; Discussion, Kindergarten Methods in the public scho is; Australia, Past, present, future; Book Review, Ben Hur; Suggestions as before. FOURTH MEETING—Numbers, The first three years' work; Discussion, School Hygiene; Mexico. Past, present, future; Book Review, The Lady of the Lake; Sug-gestions as before. F. F. Harding, Pres.; Lella Wellington, Sec-

PROF. S. W. MOUNT, formerly of Chicago, has been appointed erintendent of music in the schools of Duiuth, Minn. He is good teacher and is doing much by his excellent methods to be music a popular study in the schools. Success to him and

make music a popular study in the schools. Success to him and the pupils of Duluth.

The 'nterprise and enthusiasm of Mrs. M. M. Lyon, Sterling, Ill., for her "little folks" is unbounded. In preparing for Whit-ter's Day recently she had one of her pupils write to Mr. Whittier, who so kindly replied as follows:

Amesbury, Mass., Nov. 14, 1886. My dear young friend Maud:

I am glad to know that I have so nice a letter from so young a cholar and so good a one. I am gratified to know that the young fulks of Mrs. Lyon's school are to have a day with me and my

With all good wishes for them, I am thy friend.

JOHN G. WHITTIER. Who can undervalue this effort to please and to blest the child-

ren? Who will say that the day was not well spent?
Ogle county, Ill., built seven new school houses during the las school) ear. This speaks well for the county and for the retiriog superintendent Prof. Sanford, who could not have been asleep while this work was going on. In fact, that he had much to do with building up this spirit of enterprise, no one will doubt. Though Mr. Sanford has chosen another profession, the people of Ogle have placed another live man, Prof. Wadaworth, in his place. This weaks no let up in the good worth, that is not seen as one county.

have placed another live man, Prof. Wadsworth, in his place. This means no let up in the good work that is no π going on. Prof. A. S. Boyn, of Battimore, $M_{\rm cl}$, has located in Chicago where he is giving lessons in Art of Memory. He is author of a valuable book on this subject, and is an important educational factor. Teachers will do well to make his acquaintance. He is a fine scholar and is also author of several miscellaneous poems which he has published in book form.

CHICAGO PUBLIC SCHOOLS.

NO. III.-MOSELY SCHOOL.

The Mosely School is one of the largest schools in the city. Alfred Kirk, the principal, has filled this position since 1878. Twenty-nine teachers, including the principal, and four German teachers are drawing a salary for services rendered to nearly thirteen hundred pupils

Two buildings are occupied by this school; some of the rooms of which are very gloomy and unpleasant.

Although the discipline in this school is not military exactness, it is not strictly democratic in form of government. Each department has a distinctive character which would puzzle the observer to give a favorable or unfavorable decision regarding the whole.

At all events the world moves, and so does the Mosely School. Each grade passes to a higher one; while a class of little ones are admitted in the first grade a class is graduated from the eighth grade.

Miss Brookings, who has had charge of the eighth grade for the past eight years, is a very earnest her pupils spare no pains in research; they will tell you all about Julius Cesar, from his childhood to his death; and fluently discuss the most important bills passed by Congress, like the wisest statesman.

A visit to the sixth grade is rewarded by hearing distinctiveness and good articulation from the pupils who are instructed by Miss Kirk, who is a very careful and conscientious teacher.

In the first grade Miss Hopkins, with an assistant, teaches the little ones with an ease and grace that is very charming.

NO. IV .- CALUMET SCHOOL.

The Calumet School is a primary department consisting of four grades, with an attendance of six hundred pupils, who vary in age from six to twelve years.

Fourteen teachers, including the principal and one German teacher, are employed in the building.

Electa Dewey, the principal, is the right person in the right place. Her lady-like manner and wholesome in fluence pervades every room; and each teacher seem imbued with the same spirit; thus producing the impression that their work is a labor of love which is remunerated with the pleasure received, and given with out a single mercenary motive.

The happy face and active mind of the teachers seem to be reflected in the countenance of all their pupils as they sing in the sweet, mellow tones of childhood and then tell you all about the earth turning on its axis and revolving around the sun. Next in order they will give you some facts regarding their country, informing you all about the president of the United States, down to the mayor of Chicago; adding the fact that they are not only acquainted with their superintendent but can write his name on the blackboard-" Mr. howland"-thus suggesting a new lesson in capital letters when proper and portant names are written.

Don't fail to visit the Calumet School if you wish to be carried back to childhood's days and forget the cares and sorrows of the world.

NO. V.-HAVEN SCHOOL

George C. Bannan, with twenty-five assistants, including three teachers in German, are employed in the Haven School.

The principal's office contains a beautiful library of wenty-six hundred volumes, costing twenty-eight hundred dollars, which was obtained by solicitation.

This school is remarkable for the rare ability of its teachers in gaining the attention of the pupils; and the substantial results which are acquired by their thorough instruction.

The order is such that would not attract attention eing an apparent unconsciousness on the part of teacher and pupil that it is a part of the program of the work. One idea only is manifested, and that is the subject of research which is made so interesting and attractive that the attention of the pupil is wholly absorbed. There may be some exceptions to this statement, but they are greatly in the minority.

Mr. Bannan doesn't sim to produce apparent bril-

liancy in his pupils, but to inculcate practical and permanent knowledge that serves to make up the qualities of a good citizen.

In appearance Mr. Bannan is very modest; but he has ability as an educator that cannot fail to give him the reputation that he merits.

Without doubt he has been very fortunate in securing very excellent assistants, which would substantiate the fact that he has not "mistook his calling."

NEW YORK CITY.

There are now two exhibitions of paintings open in this city, and a very brief visit to either will show that art is making progress. The style of painting has changed within a few years; the formalism that had held sway so long is disappearing. There is a better adherence to the method of nature, and more pictures painted right from the object are presented each year. This is growth in the right direction.

Among the influences that have been potent in bring ing about this change the Art Students' League takes a prominent place. It is a school maintained by art students of New York to furnish a thorough course in drawing, painting, and composition. It is easy enough to start a school in these things; the whole will turn on the men who direct it. Among the faculty of the Art League are the well-known artists, H. Siddons Mowbray. Kenyon Cox, Walter Shirlaw, William Sartain, Wm. M. Chase, J. Alden Weir, J. Carroll Beckwith, Frank E. Scott, T. W. Dewing, and Thomas Eaking. Such men cannot have poor pupils.

But there are many influences besides that help pro duce effects upon the pupils. Mr. Chase lately gave an exhibition of his late paintings. These, as the works of one of their teachers, caused much enthusiasm, and helped to create an art atmosphere and a comprehension of what is truly fine in color. Many influences are at work in the league that build ideals of excellence in the minds of the pupils. There are lectures on art and composition from time to time. Many fine drawings are on the walls.

The number of pupils enables the league to broaden its facilities every year. It opened with more pupils than at any time previous; and having been one of the fixed institutions of the city, it is to be hoped that it will at some time have a building of its own.

BOOK DEPARTMENT.

NEW BOOKS.

IVANHOE: A Romance. By Sir Walter Scott, Bart. Complete, with Notes and Glossary. Boston: Ginn & Co. 536 pp. 70 cents.

plete, with Notes and Glossary. Boston: Ginn & Co. 536 pp. 70 cents.

Of all the fascinating works of Sir Walter Scott, there is no doubt that Ivanhoe is the chief and first favorite, especially among young people, for it is often to them the entrance-door to the enchanted and gorgeous world of chivalry. Then, above all his works, this one has the special character of a romance. The charming name, Ivanhoe, Sir Walter Scott tells us was suggested to him by a place in Buckinghamshire, England, which is said to have been forfeited by the ancestor of the celebrated John Hamden, for striking the Black Prince in a boysh quarrel. Ivanhoe has its charms, and yet there are some inconsistencies in the story which show that the author changed his mind after his first plan was laid. Notwithstanding, it is a most delightful book.

This edition of the Cass of for Children has of course been somewhat abridged, and the peculiar Scotch dialect, so tascinating to adults, has of necessity been omitted for the use of children. But the story, with all its interesting characters, remains intect. As is the case with each of these classics, abridgment, when necessary, is done with a skill-ful hand, and without impairing the tory—at least, for the young people. There is an introduction of considerable length, which gives something of a synopsis of the events as they occur in the story. Sev-ral selections from appropriate ballads are given, besides one entire, of twenty-four stanzas, supposed to have suggested the meeting between Robin Hood and Richard Caur de Lion. Altogether, Ivanhoe is one of the most valuable of the classics for children.

VALDIMIR, THE MYSTIC. A Poem of the Snow. Malcewski. New York, 126 and 128 Duane St.: Howard Lockwood, Publisher. 46 pp. 25 cents.

In this Polish poem are found six cantos, which treat of the following subjects: I. For the Hopeful; II. Life and Patrio ism; III. What is Love? IV. A Penitent; V. A Criminal; VI. A Revelation. The poem appears like a continued wal, borne on the cold blast that c.me from anow locked Siberia. The w-il of a fettered, banished Pole, who has thi sted for liberty, yet knowing that Polish liberty is death. There are a number of full-page illustrations, some of them of a pleasant, sunny appearance, and others of a wierd, and ghostry navure. Altogether, the story in the poem and the make-up of the little book are very attractive.

ÆGLE AND THE ELF. By M. B. M. Toland. Philadel-phia: J. B. Lippincott Co. Cloth, octavo, illuminated. 55 pp. \$2.00.

55 pp. \$2.00.

This is one of the most sumptuous of the smaller of the holiday books we have seen—certainly so for anywhere near the price.

The illustrations in photogravure accompany a dozen bright, fantastic poems. The drawings are by F. S. Church, St. John Harper, W. H. Gibson, Mowbray, Jennie Shepard, and others. The verses themselves are printed in a new and novel way, and the whole is bound in dull while cloth, with light blue and gold stamp, and presents one of most tasteful bindings we have seen in some time.

THE DAILY MORNING AND EVENING COMPANION CALENDARS, AND CALANDRIER FRANCAIS. Boston: Roberts Bros. \$1.00 each.

Bros. \$1.00 each.

The Morning and Evening Calendars are particularly near and tasteful in design, each being mounted upon an oval card appropriately decor*ted. The collections have been made from a wide range of liter*ture, both prose and poetical, by two ladies of eminent critical judgment. The excerpts are wise, witty, and pathetic, and are the fruits of very extensive, readings of both ancient and modern writers.

very extensive readings of both audient and extensive writers.

It may be said that quite a new idea is introduced in having a set of evening as well as morning selections. It is a good thing to be started off in the morning with a fine sentiment before breakiast; but better still if we forget, as we are prone to do, this gentle reminder to have another ready for us in the evening; a thought which we may take to our pillows and meditate ourselves to sleep.

The French calendar will be particularly appreciated by students of that language. It includes some of the best sayings from many French writers, and is very handsomely decorated.

THE CENTURY MAGAZINE. Vol. X., May, 1885-1886. New York: The Century Co. Octavo, cloth. 972 pp. 48.50.

The Century Magazine. Vol. X., May, 1885-1886. New York: The Century Co. Octavo, cluth. 972 pp. \$8.50. Interesting as each number of this splendid magazine is, as portraying in a popular way the latest thought of the subsestic, scientific, and social world, the beautiful bound volume of the collected numbers is yet a surprise even to those who are familiar with its monthly visits. When the history of American literature and art for the past ten years will be written, the story of this magazine will occupy a prominent place, for its enterprise and high ideals bave been a great and increasing influence in thousands of American households. Slowly turning over its pages, we note many articles of especial interest to teachers, such as "The Western Art Movement," "B rd Eggs," "The Lick Observatory," "Manu of Education Abroad," "Hand Craft and Rede Craft," "Harvard's Botanic Garden," "The University of Heidelberg," "Common "chools Abroad," and the "Zoological Stati in at Naples," etc. Several novels of absorbing interest have been running through the volume, the chief of which is undoubtedly Mr. How. "Its "Minister's Charge." Important contributions to the labor question are presented in Washington Gladden's "Is it Feace or War?" DeVinne's "Cooperation." Day's "Labor Question," and several "Open Latters" on the same subject. Those interested in travel will find the description of Bjornson's Home, A Literary Rambie Along the Thames, A Glance at the Arts of Persin, Algiers and its Suburbs, Weimer, and many similar il ustrated articles, very intering. The war articles alone occupy two large pages in the index, and the homorous pages of Brica-Brac are pages we always full of interest, and the homorous pages of Brica-Brac are pages we always but of interest, and the homorous pages of Brica-Brac are pages we always but of interest, and the homorous pages of Brica-Brac are pages we always but of interest, and the homorous pages of Brica-Brac are pages we always but of interest, and the homorous pages of Brica-Brac are pages

In mechanical excellence in type, printing, binding, and aper, it is unsurpassed, even by editions de luxe. Indeed, is a volume to be proud of.

"Nearer, My God, to Ther," by Sarah Flower Adams; "Home, Sweet Home," by John Howard Payne; "Abde With Me." by Hedry Francis Lyte; "My Faith Looks Up to Thee," by Riv Palmer; and "Rock of Ages," by Augustus Montague Toplady. With Designs by Lisbeth B. Comins and Miss L. B. Humphrey Engraved by John Andrew & Son. "Curfew Must Not King To Night," by Rosa Hartwick Thorpe, illustrated by F. T. Merriel and E. H. Garrett. Boston: Lee & Shenard.

Not Ring To Night," by Rosa Hartwick Thorpe, illustrated by F. T. Merriel and E. H. Garrett. Boston: Lee & Shepard.

These little books, about four inches square, are bound in cloth, in silver-grey, olive, and brown shades, tastefully ornamented with a running vine on the front cover and a gilt medalion appropriate to the subject. Most of the hymns are prefaced in each book with a history of the composition and brief biography of the author, and in some cases with a fac-simile reproduction of the original manuscript. Throughout the books are scattered wood-engravings, initials, vigneties, and full-page illustrations of stanzas and verses. Many of these will be quite pleasing to the average eye, and the whole set is likely to have a large sale as holiday gifts.

"Curfew" is bound differently from the others, being in a pasteboard imitation-alligator cover. The illustrations are in sepla tints, very numerous and showing something of an advance on those of the other volumes.

These familiar hymns and this beautiful story will never grow old, but as they come to us each vear in holiday dress, seem to us better and better, more and more wortay of the place they have found in the heart of the world.

A World of Girls: The Story of A School. By L. T.

A WORLD OF GIRLS: THE STORY OF A SCHOOL. By L. T Meade. London, Paris, and New York: Cassell & Co

\$1.50.

Immediately upon seeing the title, every girl—in fact, every woman also—wants to know more about this book. The choosing of the title was a happy inspiration for the author. It is also worthy of remark that the curious will not be disappointed in the story, and few will commence it who will not fluish it. The heroine, Hettle Thornton, is the daughter of an English nobleman, and was sent to a boarding-school in order that she might be trained (?) for society. She is a girl of high morals and deep intellectual ability, and the story rehearses her adventures in school—the literal "world of girls." It is pleasantly written, and carries with it a wholesome moral. Among the ordinary and sometimes very extraordinary incidents of the story—especially a scene with Gypsies—this one object is kept in view.

view.

As a prize book or holiday gift the volume is very value ble, for, besides the pleasure of giving and receiving, there is also that of teaching and learning. The reader will be sure to desire to emulate the spirit of the heroine. The book has several excellent illustrations, which are not its least attraction.

The Story of the Saracens. From the Earliest Times to the Fall of Bagdad. By Arthur Gilman, M.A. New York and London: G. P. Putnam's Sons. The Knickerbocker Press. 494 pp. \$1.50.

This volume is one of the interesting "Story of the Nation" Series, and shows the marks of a scholar throughout It is mainly devoted to the period before the Crusades lent their bright history to the world, and, also, does not include the thrilling narratives of the Moors in Spain; but the study of the career of the Saracens is perhaps one of the most interesting that the past has given. In Chapter I., Mr. Gilman tells "How the Story Begins," showing how, that east of the Red Sea, and just south of Palestine, there is a strange land, belonging, it is sometimes thought, neither to Europe, Asia, nor Africa; that the haughty inhabitants looked back many generations, and told each other they were the ancient ones, and cared as little for the rest of the world as the rest of the world cared for them. In a most delightful way the author describes how these paculiar sons of the sands lived in their primitive simplicity for centuries, fighting the terrible simoons, and carrying their small merchandise over the deserts. Passing on with time, changes come, commerce increased as other countries and cities grew, and the first chapter ends with the Queen of Shebah's visit to King Solomon. A book as important as this one, and as full of valuable information to the student of history, should be carefully read and studied, for the theme is ample. An especially interesting chapter is "The Year of the Elephant." A wonderful boy is born, Mohammed, "the Praised One." The history of the Suras of the Koran,—A Chronological Table, A.D. 563-1281,—List of Books Used in Preparing the Story of the Suracens,—and an Index. The book is fully illustrated, well bound, has good paper and clear type. On the inside page of cover and first fly-leaf is found a map showing the greatest extent of the Saracen dominions, boundaries, etc., in the eighth century of the Christi

MY LAND AND WATER FRIENDS. By Mary E. Barnford.
With One Hundred and Seventy Illustrations. By L. J.
Bridgman. Boston, Franklin and Hawley Sts.: D.
Lothrop & Co. 223 pp. \$1.50.

Bridgman. Boston, Franklin and Hawley Sts.: D. Lothrop & Co. 223 pp. \$1.50.

The author of this pleasantly written and instructive book has dedicated it to the boy who showed her his tub of "unfinished frogs." The title, "My Land and Water Friends, with the Dedication, imply the idea of what the book may be. It has been prepared with the hope of interesting boys and girls in their wonderful little neighbors, and to this end, the author has given a great amount of intensely interesting information. The common insects and animals that we meet with every day have been allowed to tell their own story, in their own way, which has given them a personality which children admire. The frog opens the book with a "talk" about himself, in which he tells of all the changes he has to pass through before he arrives at perfect froghood. The grasshopper then makes a few "romarks;" woich are followed by the bee, the crab, snall, aut, oyster, mud-turtle, mouse, and lobster. A spider then makes a "speech," a dragon-fly tells of his "doings," while the song-sparrow, horned-toad, magnito, limpet, and saw-fly, have each a good deal to say for themselves. It is quite evident that the author of this volume has made herself very familiar with these little creatures and their ways, or she could not present in such a fascinating manner their every-day life and doings. It is a book which will teach children to be more kind and humane to these tiny animals for it invests them with a personality.

There are one hundred and seventy illustrations; some of them are full-page, and all add much to the interest and value of the subjects they represent.

THE SENTIMENTAL CALENDAR. Being Twelve Funny Stories. By J. S. of Dale. New York: Chas. Scribner's Sons. 280 pp. \$3.

Stories. By J. S. of Dale. New York: Chas. Scribner's Sons. 280 pp. \$2.

Some of these stories appear for the first time, others have been published before, and presented to the reader. They are short, but, as the "Major," who gave them the name, declares them to be serious, that is, seriously funny, and none the less serious because they are short; also says, "It is the fauit of the public if they lack seasoning." Should the Preface be a foretaste of the book, there will a good deal of laughter take place before the stories are all read. First is found the Preface, by the "Major," showing how these stories came to be called funny. Passing on, we find the months represented by a story: January,—story told in a winter storm at sea; February,—Mr. Phillian Wraye, Agnostic Necromancer; March,—The Seven Lights of Asia; April.—A First Love-Letter: May,—Bill Shelby, being a story of a certain May morning in eastern Tennessee; June,—Two Passions and a Cardinal Virtue; July,—Our Consul at Carlsruhe; August,—Gloriana, a fairy story; September,—Passages from the Diary of a Hong Kong Merchant; October,—In a Garret, to be read there in an autumn storm; November,—A Tale Unfolded, a story for midnight, after the itrst dinner party of the season; December,—Mrs. Knolly's, to be read by a wood-fire, some December,—Mrs. Knolly's, to be read by a wood-fire, some December evening. Around the winter-evening lamp, or under the tree on the lawn in summer time, these stories will give equal pleasure, for they are mith-provoking and enjoyable.

will give equal pleasure, for they are mirth-provoking and enjoyable.

The Boys' Book of Famous Rulers. By Lydia Hoyt Farmer. New York, 13 Astor Place: Thomas Y. Crowell & Co. 477 pp. \$1.50.

It is the aim of the author of this volume, to give in as concise a manner as possible, in the best way, the most important and interesting events in the lives of the famous rulers, portrayed. The history of the world's great rulers and military heroes always contains a charm for all young people, boys especially, and Mrs. Farmer has prepared a book that is of great value, because of its entertaining character. There is nothing that boys enjoy so much as reading of the exploits and doings of other boys and men, and Mrs. Farmer has done the boys a great service in giving them so good and instructive a book. The heroes she has selected are: Agamemnon, Cyrus the Great, Alexander the Great, Julius Carar, Charlemagne, Alfred the Great, Richard Cawr de Lion. Robert Bruce, Ferdinand V. of Spain, Phillip II. of Spain, Gastavus Adolphus, Louis XIV, Peter the Great, Frederick the Great, and Napoleon I. These historical biographies are written in crisp and entertaining style, and the author, like a true hero-worshipper, has given her stories a tinge of enthusiasm that is catching. The selection of her subjects is a wise one, for whether real or mythical they are incorporated into the literature of the world and run all through it. Besides the life of the ruler selected, Mrs. Farmer has given a brief history of the various epochs in which each lived, and a description of the manners and customs of the people comprising the several nations governed by the illustrious men. The book is fully illustrated with portraits and numerous engravings.

Combined Number and Language Lessons. Containing Eight Hundred Oral and Written Lessons.

engravings.

Combined Number and Language Lessons. Containing Eight Hundred Oral and Written Lessons. By F. B. Ginn and Ida A. Coady. Teachers' Edition. Boston: Ginn & Co. 187 pp. 60 cents.

It is without doubt, true, that teachers find very few pupils who can add and subtract readily and accurately, and for this imperfection the methods of teaching are largely responsible. There has been a lack of uniformity and interest in its presentation. In view of this, these lessons have been prepared, and it is their object to show how addition should be taught, both for the purpose of saving the time of the learner, and that there shall be no doubt about it. An oral, and also a written lesson, with full directions for the teacher, are prepared for each school day in the year, and all the pupils in the same grade are required to do the same work at the same time, and in the same way.

Number and Language Lessons for the same grade are bound together in one book for the convenience of the teacher. The system of adding and subtracting is so taught that any teacher, having this system, acknowledges that she can add and subtract many times faster than before, herself, and that her class can do double the work in numbers over any other method. This manual for teachers well deserves a good and fair trial of use, and no time should be lost in making the trial.

CHARLIE LUCKEN. At School and College. By Rev. H. C. Adams, M. A. With Eight illustrations. By J. Finnemore. Philadelphia: J. B. Lippincott Co. 408 pp.

This is a recognized boys' book from beginning to end. The titles of the various chapters, and the illustrations demonstrate the fact at the first glance. The story is thoroughly English and is a history of the school-day-, escapades, trials, pleasures, and various froites of Charlie Lucken. It is very pleasantly written, and the descriptions of home life and scenery are true to life. Among the chapters of which the book is composed are found: Thorn-borough School, A Rash Expedition, A Narrow Escape, Two School-boy Adventures, The Mistakes of a Night, The New Under-Master, The Insurrection, The Issue of the Struggle, and The Archery Match. These serve as samples for all. American boys do not need much prompting in their school frolics, but these stories are a little beyond them, and will, without doubt, be the more captivating for that reason.

ATRONOMY BY OBSERVATION. An Elementary Text-Book for High Schools and Academies. By Eliza A. Bowen. New York, 1-3-5 Bond St.: D. Appleton & Co. 90 pp.

\$1.25. This Astronomy, in the form of an atlas, is the ourgrowth of actual school-work, in which it was the object of the teacher to make pupils study elementary astronomy, observe, and think. Its form is an advantage, for the large square leaves are well suited to give ampie room for the full-page spherical illustrations. The chief peculiarties of this work are: 1, An efficient, easy, well tried plan for teaching the constellations. 2, Careful directions are given when, how, and where to find the heavenly bodies. Their motions are described in the order in which they can be seen by an observer and in familiar language. 3, The student is excited to thought. Facts are stated first; theory afterward as a deduction from the facts. As the author is well acquainted with high school work, she has

made the thinking of this book to come within the capacity of scholars in reasonably good schools. At the beginning of the body of the book is an Introduction, designed especially for teachers and private learners. It tells how to learn and teach the constellations, and closes its directions by giving the appliances needed for the study. The author wisely says, "That as most young people have a sort of fear and superstition about costly and complicated apparatus, her experience and practice has shown her that the best work and most permanent can be best accomplished with the simplest means. The illustrations are unexceptionally fine and clear, the Celestial Chart, and studies of the heavens in their bright color, are full page, the type is good, and the covers are of strong boards well decorated in blue.

ANNOUNCEMENTS.

Prof. Harrison's "Greece," and Prof. Boyesen's "Norway," in the Stories of the Nations Series, are 10 be translated into

Miss Phelps' two books, "The Gates Ajar," and "Beyond the ates," have reached a combined sale of nearly one hundred housand copies

The first of the series of papers upon the battles of the Civil War, y "Colonel Shrapnel," is the special feature of the November

Mesers. Ticknor & Co. have recently issued "Sonnets from the Portuguese," by Elizabeth Barrett Browning; "Stories of Art and Artists," by Clara Erskine Clement; a volume of poems, by James Jeffrey Roohe; "Literary Curosities," and Vol. VI. of "The Olden-Time Series," edited by Henry M. Brooks of Salem; "Persia and the Persians," by Hon. S. G. W. Benjamin; "Recollections of Eminent men, and Other Papers," by Edwin Perrcy Whipple; "Confessions and Criticisms," by Julian Hawthorne; and "The Evolution of the Snob," by Thomas Sergeant Perry.

The Interstate Publishing Co., 30 Franklin St., Boston, ha issued "School-Room Games and Amusements," by Elizabeth G. Bainbridge; "The Interstate Primer," by Eliza M. Cy "School Song Primary No. 3;" "S eleton Lessons in Physiologand Hygiene," by Alice M. Guernsey; and a teachers' edition Richards' "The National Arithmetic."

Selections from Carlyle's early letters are to be publishortly by Macmillan.

Among the attractions of Treasure-Trove for December, are, an article on "The Making of Christmas Presents," by Alice M. Kellogg; and the second paper upon the battles of the Civil War, describing the sea fight between the Merrimac and the Monitor.

Henry S. Allan of New York, aun unces the early publication of "Mary, the Queen of the House of Day d and Mother of Jesus: the Story of Her Life," by Rev. Dr. A. Stewart Walsh. It will be sold by subscription.

The latest issue in Cassell's National Library are; No. 35, "The Sorrows of Werter;" No. 38, "Lives of the English Poets, comprising Butler, Denham, Dryden, Roscommon, Spratt, Dorset, Rochester, and Otway; No. 37, "Nathan the Wise," a dramatic poem in five acts, translated from the German of Lessing; and No. 38, "Grace Abounding to the Chief of Sinners," by John Bunyan. They are edited by Pr. f. Henry Morley, and the price of each issue is 10 cents; or \$5.00 for the the year of fifty-two issues.

BOOKS RECEIVED.

Macmillan's Progressive German Course. Second Year. By G. Eugene Fasnacht. London and New York: Macmillan & Co. 90 cents.

Under Bayard's Banner. By Henry Frith. New York: Cassell & Co. \$1.50.

Lives of the English Poets. Sorrows of Werter. New York: Jo's Boys and How They Turned Out, By Louisa M. Alcott. loston: Roberts Bros. \$1.50.

The Child's Book of Health. By Albert F. Blaisdeil, M.D. Boston; Lee & Shepard.

A Leisurely Journey. By Wm. Leonard Gage. Boston: D. Lothrop & Co. \$1. September. Edited by Oscar Fay Adams. Boston: D. Lothre

The Full Stature of a Man. By Julian Warth, Boston: D. Lothrop & Co. \$1.25.

Foreign Facts and Fancies. Illustrated By Popular Authors Boston: D. Lothrop & Co., \$1.25.

Bibliography of Education. By G. Stanley Hall and John M. Iansfield. Boston: D. C. Heath & Co. Mailing price, \$1.75. Contributions to The Science of Education. By William H. Payne, A.M. New York: Harper & Bros.

Britannicus. Tragedie Par Racine. Notes and Introduction. By Eugene Pellissier, M. A. New York and London. Macmillan

Faust. By Goethe. With an Introduction and Notes by Jane Lee. London and New York: Macmillan & Co. \$1.10.

MAGAZINES.

In The Popular Science Monthly for December, Dr. Felix L. Oswald controverts a number of beliefs that prevail about monkeys, parrots, serpent-charming, bats, joint-snakes, and guttons; Prof. J.P. Cooke describes "The New Requisitions for Admission at Harvard College; Mr. E. Y. Robbins makes a plea for heating by direct radiation—as from fireplaces—so as to warm objects and leave the air in its natural condition; and Mr. E. Lynn Lynnton has an article on "The Higher Education of Woman."—The December 8. Nicholas is especially attractive as the Christmas number. It contains the first part of a new sea-story by Frank. R. Stockton, "A Fortunate Opening;" and also the first part of a short serial by Mrs, Burnett.——The Magazine of American History closes its sixteenth volume with the December number. The frontisplece is a portrait of Major-General Halleck, and accompanies a paper entitled, "Misunderstandings; Haileux and Grant." The consecutive papers, "Shakespeare's Literary Executor," and "Ohio as a Hospitable Wilderness," are two delightful contributions. "The Swamp Angel," the name given to the yun which in 1863 was used in firing on Charleston, is the title to a notable paper, by William S. Stryker.——The December number of Harper's Magazine excels even its own high precedents as a Christmas feast of rich attractions. A specially holiday tone prevalls throughout, from the frontisplece by Abbey to the clever "Drawer" plate by Du Maurier. The regular serials are omitted to provide larger space for the Christmas features. Every article and story is complete in itself.—The December number of Harper's Magazine excels even its own high precedents as a Christmas features. Every article and story is complete in itself.—The December number of Education, there is an excellent article by Hon. E. E. White, Ll. D., on Moral Training in the Public Schools. Another good paper is by Prof. John K. Lord, on The Results of the German School System. The Editorials discuss timely topics in a vigorous manner.

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